

"EVALUATION OF A PROBLEM SOLVING INTERVENTION WITH EMOTIONALLY
DISTRESSED GENERAL PRACTICE PATIENTS"

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STATEMENT

This thesis is entirely my own work except for some assistance with visiting patients in their own homes in order to collect GHQ questionnaires as explicitly stated in the text. The thesis was entirely composed by me.

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ABSTRACT

Individuals who are unable to cope feel anxious and/or depressed and are unable to make decisions and solve problems. Most people have to make decisions every day. Being unable to solve problems and make decisions further enhances the individual's sense of being unable to cope.

The aims of this study were to determine if it is possible to identify people who are at risk of developing anxiety and/or depression, and to teach them coping skills which help them to manage their current difficulties more effectively and prevent the development of future problems.

The population selected were patients attending their G.P. for an ordinary clinic appointment as it is known that a significant proportion of patients attending their G.P. are emotionally distressed, and a proportion of these patients will develop anxiety and depression which will require professional help. Out of 812 patients screened, 279 were found to be troubled by anxiety and/or depression and were suitable for inclusion in the study. Patients were invited to attend groups and were randomly allocated to control and experimental groups. All group attenders received relaxation training and in addition the experimental group received generic problem solving and decision making training. The groups comprised of five sessions plus one individual session. Patients were assessed before and after the intervention, and at 6 month followup. Assessments included measures of anxiety and depression, and problem solving skills.

Ninety one patients attended one or more groups and it appears some self selection occurred when patients decided whether or not to attend groups. Attenders were more distressed than non-attenders, and more of the experimental group stated they were depressed at the time of screening. However by the start of the groups there were no significant differences between control and experimental groups on GHQ28 scores.

Following the intervention there was little evidence to support the main hypothesis of the study that the experimental group would be less anxious and/or depressed, and better able to cope and solve problems than the control group. However when patients were compared who had attended 3 or more sessions, and so had had a fair degree of exposure to the problem solving and decision making package, it was found that the experimental group were better problem solvers than the control group. Similar results were found for patients selected for being more distressed at the start of the groups. Patients who attended groups improved more, or more quickly, than those who did not attend groups.

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Introduction

The feeling of being able to cope is important to everyone. If a person is able to cope they are able to manage their lives. If they feel unable to cope they start to feel anxious and/or depressed and this in turn reduces their ability to manage their lives. Those who have difficulty coping find it hard to calm themselves and to think clearly, and they have difficulty sorting out problems and making decisions. These factors together make it even harder for the person to cope.

Poor copers go from crisis to crisis and often make inappropriate use of their G.P. and the health services. They tend to visit their G.P. frequently with trivial complaints. If these people could be taught to cope better it might help to reduce the distress suffered by the individual patients and help them to live more satisfying lives. It might also reduce the inappropriate use of health service resources and this would have beneficial financial implications.

The question of what constitutes coping behaviour then arises. A person apparently feels able to cope when he feels able to manage a situation. Behaviours such as: being able to take a positive step to control the situation, being prepared in advance for what might happen so that the individual knows how to behave when a particular event occurs, and having the skills to behave appropriately, all appear to be important for coping.

These behaviours are all involved in the process of problem solving and decision making. Most individuals have to make decisions every

day. In making decisions about what to do an individual will be considering the options open to him and what the likely consequences of his actions might be. However many people do not carefully consider a situation before making a decision but tend to be impulsive and so are more likely to regret the decision made and the consequences that resulted from it. If people could be taught a systematic way of sorting out problems and making decisions they would be more in control of what was happening in their lives, and would see that they have some influence. They would also be aware of the possible consequences of the different options open to them and thus could avoid, or prepare themselves, for them. So the skills involved in problem solving and decision making would appear to be relevant for coping.

The next question is can coping skills, such as problem solving, be taught? The evidence suggests that problem solving and decision making (PS/DM) skills can be taught. Duckworth (1983) taught students generic PS/DM skills and found that if students learned the steps involved they were able to apply these steps to new problems for themselves. Other studies involving schizophrenic patients (such as those by Falloon and colleagues 1981, 1982) showed that with support such psychiatric patients could benefit from PS/DM training. However, what has not been investigated is if ordinary people, who are not students, could be taught generic PS/DM skills and could apply them to future problems to prevent them becoming troubled. Also, is generic PS/DM training valuable in treating anxiety and depression, and preventing the situation worsening so that a person requires less or no professional help?

The literature suggests that progressive muscular relaxation training has proved effective in reducing the somatic symptoms of distress, and has resulted in people feeling more in control of themselves and so more able to cope. Therefore the comparison of PS/DM training plus relaxation training with relaxation training alone could be expected to show any beneficial effects of the generic PS/DM training. As an indirect measure of coping, assessments of anxiety and depression could be used. The population from which the subjects are to be drawn is considered next.

Neurotic illness is a significant problem in the general population. For women it has been estimated that the rate of morbidity is around 12% in the general population and between 12-30% for a general practice population (Goldberg et al 1976). In the early stages it is likely that the problem will not be detected by the patient's GP. Although the majority of women attending their GP with a minor affective disorder will have improved in 6-12 months, it is estimated that around a third will continue to be troubled and may develop a more severe illness. It is obviously important to reduce the risk of a patient becoming ill, not only to avoid the distress caused to the patient and her family but also for economic reasons including the cost to the N.H.S. and lost working days. Also people who have been ill often suffer loss of self esteem and may be left with patterns of behaviour which make them vulnerable to relapse.

A general practice population of women would therefore be a suitable population to use in order to select a group of women of whom a significant proportion could be expected to be troubled, and some of

whom may become ill over the course of the next six months to a year.

The objectives of the study were to select a health centre population of vulnerable women and divide them into a control and experimental group. Both groups would be taught progressive muscular relaxation exercises but the experimental group would also be taught generic PS/DM skills. Two aims were to determine if such a heterogeneous group of women could be taught such skills in cost effective groups, and if the PS/DM training resulted in lower scores on assessments of anxiety and depression than the use of relaxation training alone. The effects of the training were to be assessed at the end of training and again after six months. It would then be possible to determine if the groups who received PS/DM training were able to make use of the training without further help and if this resulted in reduced levels of distress in the longer term. It was also important to determine the characteristics of the patients who both benefited most, and least, from the intervention so that future work could be targeted more effectively.

This study was planned as a practical project to determine if such a preventative intervention was worthwhile. If it was worthwhile then further preventative projects could be planned for the future and some of the nation's limited resources be used more effectively.

The topics of stress and coping come into a very wide range of literature. Also the literature on anxiety, depression, and problem solving is vast. It has therefore been necessary to be very selective when reviewing work for this thesis. The thesis is organised so that

the work concerned with the causes of stress and the nature of coping is examined in the first chapter. Also the evidence for problem solving and decision making and relaxation techniques being skills which can be taught and which result in improved coping are examined. Chapter two aims to establish the extent of mild to moderate neurotic psychiatric morbidity in the general population, and general practice, and what happens to such people. In chapters three and four the methods used for the pilot and main studies are described and the results detailed. A summary and discussion of the results is contained in chapter 5.

Chapter 1

1 Stress and Coping

Cannon (1932) studied the responses of animals to stress and saw the physiological changes as a response to an emergency. This idea that stress was a response to emergency situations was used by researchers who studied extreme situations in the field (eg. war and emotional stress Janis 1951), or in the laboratory where they studied the effects of unpleasant stimuli (eg. Lazarus et al 1962 – stressful films). From these studies researchers tried to determine how “normal” functioning was affected by these stressors, and they saw stress as a deviation from the normal state. They employed a homeostatic model where the normal state was living without stress but any change could produce stress (eg. Selye 1957).

However it was found that x amount of stress did not lead to x amount of response. There must therefore be other factors such as coping skills which mediate between the stressor and the response and affect stress and coping behaviour. Factors which affect stress and coping behaviour and are related to problem solving and decision making will be examined. The effects of stress upon the body will be outlined. Details of the physiology of stress will not be dealt with here as such details are not of direct relevance to the present study. Stress and coping will be considered under the following subject areas: physical symptoms of stress; causes of stress – the association between life events stress and coping; factors which affect coping including appraisal and beliefs; and problem and emotion focused

coping. The evidence that coping skills can be taught will be considered in the sections on problem solving and relaxation training intervention studies. Other factors which affect stress and coping, such as social support, will not be discussed as they were not directly examined in this study.

1.1 Physical symptoms of stress

Marks (1969) listed the changes that may occur in the stress response. These changes included: the individual feeling anxious or terrified, experiencing a pounding of the heart, muscle tension, trembling, dry mouth, nausea, perspiration, the urge to urinate or defaecate, and difficulty with breathing. The individual may also have parasthesia of the extremities, weakness of the limbs, and sensations of faintness and falling. These feelings in themselves may be uncomfortable and may cause the individual to become more anxious.

Clinical experience indicates that many individuals when very anxious fear they will lose control of themselves and will faint. Relaxation exercises can be taught to help the individual gain control of the symptoms of anxiety.

1.2 Definitions and issues

Despite many years of research a universally acceptable definition of stress had not yet been developed. The most relevant definitions of stress and a few of the issues they raise will be briefly mentioned below.

As stated above in early studies stress was seen as the reaction to strong aversive physical stimuli. The difficulty with this purely physiological approach was that the physiological response was not independent of environmental factors. Also some environmental and physical stressors have very specific rather than general systemic effects.

Selye (1957,1976) developed the concept of the General Adaptation Syndrome which evolved to incorporate psychological factors as determinants of stress. This model allowed for ordinary as well as extraordinary aspects of life to be classed as stressors. Selye (1976) viewed stress as the body's non-specific response to any demand placed upon it. Two types of change are produced by stress. The primary response is non-specific in both its cause and expression, and is associated with body damage. The secondary response is a clear pattern of responses designed to "defend" the body. The amount of damage caused by stress is moderated by hereditary and constitutional factors, and the individual's cognitive processes. Adaptation energy is required to help the body cope with demands. If the demands continue the appropriate set of responses will become exhausted and this will result in tissue damage and ultimately death. Local stressors can affect any organ, or organ system, and produce a stress response called the Local Adaptation Syndrome (LAS). If the local adaptation syndrome is strong enough, or there are enough local adaptation syndrome responses, the General Adaptation Syndrome (GAS) will occur. The general adaptation syndrome produces a pattern of responses throughout the body.

One problem with this model is that Selye inferred the existence of adaptation energy. However the nature of this "energy" has yet to be identified. Also, the way in which the physical processes become "pathological" when the supply of adaptive energy diminishes has yet to be determined. This model is discussed in detail by Hamberger and Lohr (1984) and will not be discussed further here.

Burchfield (1979) then proposed that the word "stress" should be reserved for when function has been disturbed. Disturbance is when the subject's response to the stressor is extraordinary or different from baseline, and it is characterised by intense activity to counteract the disturbing stimuli and return to psychological homeostasis. Burchfield also distinguished between psychological and physical stress. Psychological stress results from anything that causes an alteration of the psychological homeostatic processes or which alters the normal mood state. Psychological homeostasis is maintained by conscious and unconscious processes. Problems with this model are that "normal mood state" is very hard to define and measure, and "unconscious processes" hard to assess as the mediational mechanisms involved are not defined.

Lazarus (1967) thought stress responses were mediated by cognitive processes. He suggested that much confusion had arisen as a result of stress related emotions being seen as causes rather than effects of cognitive and behavioural stress responses. This had resulted in researchers not identifying the conditions and processes that produce different stress reactions. Lazarus tried to identify the

nature of the cognitive processes which resulted in emotional responses.

Researchers such as Glass (1977) and Lazarus (1967) viewed stress as a response state where stress results from a perceived or actual imbalance between what is demanded of an organism and what the organism is capable of. Observed responses are mediated by cognitive processes such as appraisal. Lazarus suggested that stress reactions are reflections of the coping process. For example, a perceived threat would lead to efforts to avoid or minimise anticipated harm. The coping processes activated (such as avoidance) depends upon cognitive appraisal.

Lazarus' model would enable a prediction to be made of how an individual would behave in a given situation, provided all the relevant environmental and subject variables were known. This, and a similar interactional model put forward by Janis and Mann (1977), will be discussed in more detail in later sections of this chapter.

1.3 The association between life events, stress and illness

It has long been thought that there was an association between the events in an individual's life and illness or maladjustment. Leif (1948) noted significant biographical information when considering an individual's medical problems. Later Antonovsky (1974) pointed out that similar life events do not lead to the same symptoms in all people, so there must be other factors which influence the impact such

life events have upon people. It is now clearer that there are many factors which play a part (such as social support and Locus of Control). However evidence linking life events with stress and breakdown will be outlined first, and then the factors more relevant to this study which affect the impact of life events will be discussed.

Holmes and Rahe (1967) devised a Schedule of Recent Life Events by listing 43 life events which are commonly experienced, they then asked a panel of judges to rate the relative amount of readjustment each event would require. Marriage was given an arbitrary value of 50 and the ratings of other events were decided upon in relation to this score. The Schedule has been criticised for many reasons. Rabkin and Struening (1976) noted that it did not cover a sufficient range and variety of life events, it included both desirable and undesirable life events, and it assigned readjustment weights which are a poor approximation to the responses of most research subjects. It has nevertheless been an important influence upon the stress literature.

Rahe (1974) reported that the number of life events experienced by navy staff in the 6 months before a cruise was predictive of illness during the voyage. This prospective study eliminated some of the possible sources of bias of earlier retrospective studies, also because the population was isolated on board a ship this reduced the risk of introducing illness to the ship's population from outside sources. Dohrenwend and Dohrenwend (1974) cited further evidence that life events have been associated with depressive illness, sudden cardiac death, suicide and schizophrenia. Rabkin and Struening (1976) in their review of the literature concluded that there were "modest but

statistically significant relationships" to be found between increasing numbers of life events and a variety of physical problems such as myocardial infarctions. More recent studies have tended to confirm this result [Sarason, Levine and Sarason (1982); Billings, Cronkite and Moos (1983); Paykel (1979); Tennant, Bebbington and Hurry (1981)].

As the relationships between life events and illnesses were small other variables must have an influence upon the effect of the life event, or the life events measure could perhaps be improved. A further consideration is that some people appear to withstand or recover from life events with few bad effects (Antonovsky 1974).

Miller, Ingham and Davidson (1976) described a pilot study which examined the nature of life events themselves. They used a population who had attended their GP in the last 7 days, and non-attenders who had not recently consulted. The subjects were asked how severely they were affected by 5 common physical symptoms (backache, headache, palpitations, dizziness, and breathlessness) and 4 common psychological symptoms (anxiety, depression, tiredness and irritability). The degree of social support and the number of threatening and nonthreatening life events during the previous 3 months were assessed. It was found that the consultants had experienced more threatening life events than the non-consulters. It was also found that the number of threatening events was related to the severity of psychological problems, but they were not linked to physical problems, or if linked, they were linked only very weakly. This study however used few subjects (34 in each group).

In a later paper Ingham and Miller (1985) used a larger number of subjects to try to determine if there were characteristics of the life events which were associated with the severity of symptoms. The researchers studied 1060 adults over a 3 month period. The life events were rated according to whether they had the following characteristics: loss (L), threat (T), antisocial act (A), hopeless situation (H), uncertain outcome (U), and choice of action (C). The symptoms studied were: predominant depression, anxiety, tiredness, backache, or non of these reaching a pathological level. They found that particular patterns of life events were associated with particular physical symptoms. Events which included choice of action (C) and loss (L) were associated with depression, whereas anxiety was associated with threat (T) plus at least 2 other factors. Those who lacked confidants were most likely to be depressed, and a lack of superficial support was associated with anxiety and depression equally. It appeared that the more severe life events were associated with more severe symptoms. In this study however no exact date of onset of symptoms was established but the symptoms had occurred during the month before the interview, so it is possible that some of the life events may have occurred after the onset of the symptoms. The results obtained in this study tended to support those of Finlay-Jones and Brown (1981) who suggested that it is the characteristics of the life events themselves, and the social support available to the subject, that are important in predicting symptoms.

In 1987 Miller and his colleagues looked further into the question of which factors are implicated in the onset and remission of psychiatric symptoms in women in the community. They studied women who

belonged to categories, such as those prior to an episode of anxiety/depression lasting less than 13 weeks, or those with a longer illness, and those during a continuing period of illness. Social environment and personality were also studied. It was found that the stressors with uncertain outcome led to longer illness, and poor social support was associated with continuing illness. The authors admitted that the study was of an exploratory nature and many hypotheses were explored before variables which discriminated between the groups were clarified. The results therefore need to be cross-validated to determine if the results will stand. It was also difficult to determine the precise onset and offset of illness, and so it seems likely that these were gradual processes rather than clearly defined points in time.

From the above studies it appears that life events do lead to an increased risk of illness, both physical and psychological, and the characteristics of the life events themselves appear to affect the response to the event. Although life events have been found to be associated with stress and illness, there has been much criticism of the life events methodology.

In addition to the earlier criticisms outlined the Social Readjustment Rating Scale of Holmes and Rahe (1967) has been criticised for the assumptions it makes eg. Sarason et al (1978). The scale was improved by using readjustment weights to items (Holmes and Masuda 1974, Dohrenwend and Dohrenwend 1978, Ross and Mirowsky 1979). Further improvements focused upon item undesirability (eg. Redfield and Stone 1979, and Vinokur and Selzer 1975) the breadth of

item content, and the weighting of subjective impact eg. Horowitz et al 1977, and Sarason et al 1978).

Even though there have been these difficulties with the life events approach it has been difficult to find ways of studying stress in ways which allow the subjective significance of an event to be taken into account (eg. Horowitz et al 1979), and for individual differences in coping skills and resources to be taken into account (Andrews et al 1978). Lazarus and his colleagues suggested that the more minor stresses and pleasures of life might be more important in adjustment and well being than the more major life events. Kanner et al (1981) developed the Hassles and Uplifts Scale which studied daily hassles over a nine month period and found the frequency of hassles was significantly related to psychological symptomatology. Hassles were defined as "the irritating, frustrating, distressing demands that to some degree characterize everyday transactions with the environment" for example, losing things, traffic jams and disappointments. Uplifts are the positive experiences, such as relief at hearing good news and a good night's rest. DeLongis et al (1982) then assessed the relationship between the life events scores and the hassles scores and found that in regression analyses the frequency and intensity of hassles scores accounted for a significant proportion of the variance scores in health, with life events scores failing to add to this, in fact Hassles scores improved upon the prediction made by the life events scores, and when the effects of the life events were removed statistically, hassles remained significantly related to somatic illness.

Flannery (1986) hypothesised that both major life events and daily

hassles would be associated with anxiety and depressive symptoms. The results only partially supported the hypothesis and Flannery suggested that there were methodological flaws in both stress measures. Both the Schedule of Recent Life Experience and the Hassles Scale contained symptom contaminated items; they both fail to distinguish between experiencing an event versus reacting adversely to an event. It may be that the response to events manifests underlying pathology rather than events themselves being the cause of pathology. Neither questionnaire has adequate scaling procedures to assess clear individual differences (Dohrenwend and Shrout 1985, Lazarus and Folkman 1984). Flannery suggested that a methodological improvement would involve the use of a semi-structured interview. This would allow the researcher to clearly establish when the event occurred and in what circumstances, and to establish what the subject's response was to the event. He stated that Paykel's 1983 reliability and validity studies showed that in practice the semi-structured interview was superior to the self report measures. It may be therefore that it would be better to use a structured interview when assessing the impact of life event stress and coping.

In the above studies various aspects of life event stress have been examined. Although measures of life events and daily hassles and uplifts have been improved there does not appear to be a simple relationship between an event and the degree of stress experienced. The degree of threat that the event imposes and the amount of social support available to the individual appear to be influential in the degree of stress experienced.

1.4 Modes of coping

As the relationship between stress, life events and hassles and uplifts has not been found not to be a simple one, research which examined the characteristics of the individual which might influence the response to stressful events has been carried out. Studies have tended to focus upon personality traits or types which may influence motivation or defence mechanisms and thus behaviour. These will be briefly considered below.

1.4.1 Coping traits

The Type A behavior pattern (TABP) was found to be associated with a twofold increased risk of coronary heart disease (eg. Rosenman et al 1975, Rosenman 1964) although the link between type A behaviour pattern as a coronary risk factor has been questioned recently (Ivancevich and Matteson 1988). Friedman et al (1975) studied people to determine the relative influences of the predisposed person and the environment in eliciting type A behavior. The type-A behaviour pattern was defined as "an action-emotion complex shown by persons in chronic excessive struggle to achieve an unlimited number of things in the shortest possible time". Type-A people show 1) an extraordinary degree of drive and competitive spirit, 2) involvement in multiple deadlines, 3) chronic feeling of time urgency, 4) typical motor characteristics such as rapid explosive speech, tense facial musculature, and abrupt body movements. Type-B people are the converse of type-A people. They are more introspective, less hostile or aggressive, and are less concerned with time. Their orientation is

towards quality rather than quantity of achievement. Friedman and colleagues found that type A people create more stress for themselves by appraising a problem as a challenge whereas others do not. A puzzle which aroused only mild interest and effort in a group of type B males, was responded to, both physiologically and behaviorally, as a challenge by the type A men. However, even among the type A men the tendency to put in a great deal of effort was not independent of the environment. If the type A men thought that they could not control the course of events, they tended to give up the task faster than the type B men. Whereas if they thought that the task was a challenge and not impossible, they worked faster and harder than the type B men (Glass 1977).

Studies of this type show that although people may have relatively stable patterns of behaviour, the actual behaviour elicited at any one time is influenced by environmental factors. Even if there are stable personality traits, such as type A behaviour pattern which are found to be associated with ill health there may be many aspects of that behavior pattern which are healthy and worth reinforcing (Ivancevitch and Matteson 1988).

Roskies and Lazarus (1980) cited 3 studies (Davis 1963, Friedman et al 1963, Roskies 1972) which are longitudinal studies of parents whose children suffered from illness, deformity, or were soon to die. The studies followed parents over a period of months or years, and the results together showed that the parents' responses tended to follow a pattern, or series of stages, which were influenced by the external

circumstances and the meaning that the parent attributed to the events. One parent who tended to use denial behaved differently when the parent was first told that the child might have to be hospitalised for polio, to two years later when the child had to use a wheelchair. In the first situation the parent minimized the illness and hoped it was only a fever and sore throat, in the second instance the parent hoped that given physiotherapy the child would make significant progress. A year later the parent hoped that an eventual cure for polio would be found. There appears therefore to be a dynamic interaction between the more enduring patterns of behaviour in the individual and their perception of the environment.

More recent studies have considered the effects of both life events and coping style. The view that coping is a trait suggests that a person will respond in a particular way under certain circumstances. The more general the trait the less it will be limited to any particular situation. So it is assumed that a particular coping trait will predict how a person will cope in most or all circumstances. Coping "style" refers to the same idea but is usually thought of as a complex set of strategies which are used to relate to the world.

1.4.2 Coping style

The concept of coping style comes mainly from psychoanalytic sources. This approach developed from a study of pathology and is concerned with intrapsychic processes and defence mechanisms. These concepts in the view of Lazarus and Folkman (1984) form only a part of a wider concept of coping which includes factors such as

environmental demands, opportunities and constraints.

Lazarus (eg. Lazarus et al 1970) developed a more dynamic view of stress and coping which incorporated cognitive appraisal. Stress was no longer seen as a static relationship between particular properties of the situation and particular properties of the person but more as an ongoing transaction made up of a series of events – ie. a stimulus, a response, an altered stimulus and an altered response etc.. The person appraises the situation constantly and the individual's understanding of what is going on affects what happens next. The person experiences something as stressful when they perceive the event as threatening or taxing their abilities. The response made is affected by the person's evaluation of what is the best way to proceed and what response is judged to have the best outcome.

Stress and coping therefore are interrelated and coping becomes a factor which is not simply a response to what has happened but is a factor that will affect what will happen. This can be seen in a study by Krantz (1983). Prior to an exam Krantz asked students to generate possible strategies that could be used if they found that they were unhappy with their performance in exams. They were also asked to rate how feasible these strategies would be. She then asked the students to report on their behaviour prior to the exams and direct observations of the students were also carried out. The results indicated that coping cognitions predicted academic behaviours but not the performance at the exams.

It may be that the study found a poor relationship between coping

behaviours and performance because the study did not assess the qualitative aspects of studying. For example, the length of time spent studying was assessed but not the way the material was organised or used. It may have been that if qualitative measures of coping behaviours had been assessed coping cognitions may also have predicted performance. This study supports the view that coping behavior not only affects the immediate response to a situation but affects how an individual will respond to future related situations. For example, if a student finds he can quickly learn material on one occasion, when he next has to learn similar material he will approach the task expecting a similar experience. This is likely to affect his approach to the task. He is more likely to get on with the task rather than avoid and worry about it.

Pearlin and Schooler (1978) focused upon the ordinary stresses of life rather than focusing on unusual events in their examination of coping styles. They studied the stresses associated with social roles – such as: marriage partner, household economic manager, parent and worker. They identified 17 coping factors each of which was made up of 3 particular strategies. Certain coping behaviours occurred in all 4 role areas, whereas others only occurred in one area which suggested that there is both consistency and variability in coping behaviours across situations.

Pearlin and Schooler's study (1978) can be criticised because it is based upon questions which asked how the subject usually behaved, and asked about general sources of stress. The responses therefore were of a more general nature and elicited information about a more

general personality disposition rather than providing information about actual coping behaviours via particular situations. Also there is usually a poor relationship between what people actually do and what they say they do. A second problem with the study was its focus upon unresolved and enduring problems rather than problems successfully dealt with. Thus successful coping responses were largely ignored.

Certain coping styles, such as information seeking and problem solving, were thought to result in less depression and better adjustment to chronic illness (Felton and Revenson 1984, Billings and Moos 1984). Sex differences have also been reported in the susceptibility to stressors (Amenson and Lewinsohn 1981). These studies tended to focus upon subjects who had already been diagnosed as suffering from a psychological or physical problem. Hovanitz (1986) studied the effects of coping styles and life event stress in a non-clinical population of college students. She evaluated the independent and combined contributions of life event stress and coping style (the coping styles studied were: problem-centred, emotion-centred, avoidance, social-centred, cognitive-restructuring and self denigration). For women coping styles contributed a significant amount of variance over and above that provided by negative life events, and in most cases, negative life events contributed significant variance over and above that contributed by coping styles. No coping style was found to be a protection against experiencing stress, but avoidance, emotion-centred, and self-denigration styles were found to be associated with higher MMPI psychopathology scores. The results differed for males — avoidance and self-denigration were associated with higher psychopathology

scores. Each coping style contributed a significant amount of variance over and above the life events score, but negative life events did not contribute significant variance over and above the coping styles. Although the mean scores for emotion-centred coping did not differ significantly between males and females, the use of emotion-centred coping was associated with greater dysfunction for females, a result which is similar to that found by others (Billings and Moos 1984). Despite looking at the joint and independent contributions of coping styles and life events to psychopathology, the majority of the variance remained unaccounted for. This suggests that still other factors may account for this variance – such factors perhaps as social support, perceived control, physiological reactivity, and chronic life stress.

One of the problems with the study was that the coping styles that were found to be significantly related to the MMPI psychopathology scales, were also ones that suggested that there was a response set of "willingness to report deviance" or an "inverse social desirability" set. So further studies would need to control for this factor more effectively. Nevertheless coping style appears to make only a small contribution to predicting coping behaviour in this study.

Feifel et al (1987) studied coping responses in medical patients facing life threatening illnesses and compared the responses with patients suffering from non-threatening illnesses. Those with a life-threatening illness used confrontation significantly more than the non-threatened group, and acceptance-resignation was used least by both groups. These results lend support to the view that coping behaviour is more determined by the situation than the by a personal

style of coping behaviour.

This study assessed patients at only one point which did not allow for any assessment of the dynamic processes involved. Although length of illness was controlled for, it may have been that with a chronic illness the coping behaviour changes depending at what stage it is assessed. One improvement might be to assess patients at the start of the illness before the longer term coping behaviours have developed. Also this study only used men and so the results for women may be different.

Miller et al (1985) found that women who were well at the time of the first interview but who responded to life stress by getting angry with themselves or others, ruminating, or using alcohol or tobacco, were more likely to become psychiatrically ill within one year. This was the case even when the life stress was taken into account. It appears from this study that the maladaptive coping is associated with illness even when the amount of life stress experienced is minimal. No coping reaction or style was found which appeared to serve a protective function. This study was not designed as a prospective study so the effects of illness and coping reactions could not be easily separated. The maladaptive coping reaction was only measured once and it is not known how the subjects coped before their illness, or after the measure was taken. Instead the experimenters estimated the maladaptive reaction score from a sample of events and longer term difficulties which may, or may not, have been present during the 6 month period of the study. This is likely to have affected the reliability of the maladaptive reaction results obtained.

Thus it appears that the situation is an important factor in determining coping response, perhaps more important than any stable coping style within the individual. It is not possible to say what good coping behaviour would be in any particular situation. Nevertheless there are indications of patterns of behaviour which are associated with poor coping.

Trait measures of coping processes are based upon the assumption that people will behave consistently (both cognitively and attitudinally) across situations. However little evidence has been found to support this view (eg. Bowers 1973, Ekehammer 1974, Magnusson and Endler 1977, Pervin and Lewis 1978).

It is clear from naturalistic observations that coping is not a unidimensional factor but is made up of a variety of thoughts and behaviours. Moos and Tsu (1977) pointed out that people with a physical illness had to handle many sources of stress – for example pain, loss of income, the demands of professional staff and treatment regimes etc.. Coping also appears to be a shifting process in the course of which the individual may depend more upon one type of coping than another. For example he may at one stage rely mainly upon defensive strategies and at another stage use more PS/DM strategies. Thus process measures of coping would be of more value than static measures.

1.4.3 Coping as a process

Janis and Mann (1977) developed a model of decision making and used it to explain how people cope. This model is described in more detail in the section on problem solving and decision making and so will not be more than mentioned here.

Lazarus and his colleagues developed a process model of coping. They suggested that coping refers to a) what the person actually does in a particular situation, and b) how what a person does changes as the situation proceeds or they encounter situations linked by a common theme. Lazarus illustrated this point by using grief and the study of parents of sick children cited earlier as an example. Although there may be great individual differences in the experiences of grieving, there may also be a number of common patterns in the grieving process, and the pattern of coping changes over time (Lazarus and Folkman 1984).

Cohen and Lazarus (1973) studied coping traits in patients about to undergo surgery. Patients were assessed on how much they knew about their illness and treatment, and on how much interest they expressed in finding out about what was happening to them. They were assessed on a dimension of avoidance/vigilance (eg. they knew little and did not wish to know more through to being well informed and wishing for further information). A trait measure of this dimension was also used - repression/sensitization. The results of the study found no correlation between the trait measure and what people actually did when receiving surgical treatment and aftercare. So the trait measure did not predict the process of coping with this specific threat. Lazarus stated that this did not mean that traits do not exist but that the

measures of traits that currently exist do not adequately reflect the variability of the coping process which is greatly influenced by the context of the situation.

Until the study conducted by Pearlin and Schooler (1978) which used a more general population derived from a census, much of the research on coping focused upon unusual populations – either populations with exceptionally good adjustment, or populations exhibiting some form of pathology. Folkman and Lazarus (1980) studied a community population of men and women over the course of one year. Subjects were asked to complete self-reported questionnaires in between monthly interviews. The study sought to determine the extent to which people behave in a consistent manner across a variety of stressful events, or whether the behaviour was more situation specific (ie. determined by factors such as what the event was about, who was involved, how the event was appraised, plus age and sex).

Folkman and Lazarus (1980) developed The Coping Checklist. Coping measures published up till 1980 were regarded as unsuitable as their view of coping centred upon defensive or ego processes. The authors thought maintaining emotional equilibrium was an important aspect of coping, so an adequate definition of coping should include both emotion regulating and problem-solving functions. A situation orientated approach was not thought adequate because although it did not limit the definition of coping to defensive and trait orientated processes, the approach was developed from studies which tried to identify coping strategies used in unusual circumstances (such as parachute jumping) and was not suitable for use for studying coping across a

variety of situations.

Folkman and Lazarus studied coping over time because if coping is largely determined by person variables, then the coping patterns within one individual should be consistent across different stressful episodes. However, if it is the situation that is more important, then the coping behaviour should be more situation-specific and there should be little consistency over time. Other variables such as how the situation was appraised were also recorded.

Lazarus and his colleagues (eg. Folkman et al 1979, Lazarus et al 1980, Lazarus and Launier 1978) developed a theoretical framework in which the person and his environment were seen as being in a reciprocal relationship with each other, and 2 factors affect this relationship. One factor is appraisal, the other is coping.

Appraisal is the "cognitive process through which an event is evaluated with respect to what is at stake (primary appraisal) and what coping resources and options are available (secondary appraisal)" (Folkman and Lazarus 1980). Three main types of stressful appraisals were identified and were: a) harm-loss, refers to damage which has already occurred, b) threat – anticipated harm or loss, c) challenge – anticipated opportunity for mastery or gain. The degree of stress experienced depends upon the relationship between the person and the environment in each situation and is determined by what the individual believes to be at risk and what his options for coping with that are.

Coping on the other hand is "the cognitive and behaviour efforts

made to master, tolerate, or reduce external and internal demands and conflicts among them". This behaviour a) alters the person-environment relationship which is the source of stress (problem-focused coping), and b) regulates stressful emotions (emotion-focused coping). Coping efforts then are made in response to stress appraisals, and coping and appraisal continuously influence each other during a stressful episode. Coping processes are viewed as what the person thinks and does in a particular situation and the changes in effort that he makes during the course of the episode(s).

The results of Folkman and Lazarus (1980) showed that both problem-focused and emotion-focused coping were used during most of the stressful episodes encountered, and people were more variable than consistent in their patterns of coping. The most influential factors affecting coping behaviour appeared to be the context of the event and how it is appraised. Situations in which the individual thinks something constructive can be done or a situation which requires more information both favour problem solving coping. Whereas situations where it appears nothing can be done, favour emotion focused coping. A gender difference of men using more problem focused coping at work than women was found.

This study examined intraindividual coping and examined the effects of cognitive appraisal, coping, and outcome. Primary appraisal was assessed using 13 items describing various stakes (no copy of the scale was given) with 5 point Likert scales (1 = does not apply; 5 = applies a great deal) so that the subject could report how much each stake was involved in the stressful encounter being investigated.

Following a factor analysis of the items two main factors emerged, the first involved threats to self-esteem, and the second involved threats to a loved one's well-being.

Secondary appraisal was assessed using 4 items describing coping options, and subjects recorded on a 5 point Likert scale the extent to which the situation was one "you could change or do something about"; "you had to accept"; "you needed to know more about before you could act" and one "in which you could hold yourself back from what you wanted to do". The outcomes of completed stressful episodes were recorded ("unresolved or worse", "not changed", "resolved, but not to your satisfaction").

The results obtained indicated that coping was strongly related to cognitive appraisal, and the forms of coping used depended upon what was at stake and what options for coping were available. Subjects used more confrontative coping, planful problem solving, and positive reappraisal, and accepted more responsibility in situations they appraised as changeable. Whereas they used more distancing and escape-avoidance in situations they regarded as having to be accepted. When subjects thought they needed more information before they could act, they tended to seek more social support and used more self-control and planful problem-solving strategies. If however they thought they should hold back from what they wanted to do, they then used more confrontative coping, self-control, and escape-avoidance.

The lack of planful problem-solving and distancing in stressful episodes that involve threats to a loved one's well-being may be

because such situations are not amenable to rational problem-solving or that people cannot, or do not want, to be emotionally distant. Consistent with previous studies (Coyne et al 1981, Folkman and Lazarus 1980,1985) subjects tended to use more problem focused coping in situations they appraised as changeable, and they used emotion focused strategies when they thought there was little they could do about the outcome.

Problem focused coping and positive reappraisal were found to be highly correlated (Aldwin et al 1980, Folkman and Lazarus 1985, Folkman et al 1986), and this suggests that positive reappraisal may facilitate problem-focused forms of coping. Alternatively, people use problem-focused coping when they see a potential for positive change, and this leads to positive reappraisal, or, perhaps people develop a positive reappraisal in situations where problem-solving coping has produced a good outcome. When outcomes were examined, unsatisfactory outcomes were linked with more confrontative coping which may have worsened the situation, whereas satisfactory outcomes were associated with planful problem-solving. It may be however that even if an outcome is technically unsatisfactory, if an individual has really considered the problem carefully from many angles and acted in the best possible way given the circumstances, they may feel that what happened was satisfactory given the nature of the situation.

This study suffers from the fact that it is of a retrospective design and examining one's behaviour retrospectively may affect how an individual appraises the situation and their coping behaviours, and it

is not possible to establish cause and effect. As the authors suggest it seems likely that appraisal influences coping, and coping influences the appraisal of what is at stake and what coping options are available to the person. Some coping behaviours, such as positive appraisal, may be more influenced by outcome rather than the reverse. A second point is that these self-report results need to be verified by more objective results obtained using direct observation of behaviour and perhaps physiological monitoring.

In a second paper using the same sample as in the previous study Folkman et al (1986) looked at personality factors such as mastery and interpersonal trust, self esteem, values, commitments and religious beliefs, and primary and secondary appraisal were assessed. It was found that when the summed results from all 5 interviews were analysed, mastery and interpersonal trust, primary appraisal and coping variables were related to psychological symptoms but not to somatic illnesses. The more subjects felt they had at stake the more likely they were to experience psychological symptoms. Again planful problem solving was negatively correlated with psychological symptoms and taking the two studies together it appears that generally speaking planful problem solving may be the most adaptive form of coping. There is however some evidence that in certain situations (eg. coping with cancer — Rogentine et al 1979) confrontative coping may be more adaptive.

Folkman and Lazarus (1986) in a third paper based on the same community sample of married couples, found that subjects that had greater depressive symptoms felt they had more at stake in stressful

situations, they tended to use more confrontative coping, self-control, escape-avoidance, and accepted more responsibility, than those who were less depressed. They also tended to respond with more disgust/anger and worry/fear than those who were less depressed. These results suggest that the more depressed subjects were more hostile and vulnerable than their counterparts but there were no differences in their appraisals of situations being changeable, outcomes being satisfactory/unsatisfactory, or in reports of positive emotions at the beginning of stressful encounters. So they were not entirely negative in their appraisals or coping processes.

The learned helplessness model of depression (eg. Abramson et al 1978) would predict that the more depressed subjects would be more likely to appraise situations as being unchangeable/uncontrollable but this prediction was not supported. Similar results were found by Coyne et al (1981). It is possible that the more depressed subjects feel more vulnerable to threat because they perceive the stakes (physical, psychological, social or material) to be high, and this perception is more significant than the perception that the situation is uncontrollable.

The depressed subjects tended to be more hostile and this supports Billings and Moos (1984) who found that depressed subjects tended to express their angry feelings towards others and this may in turn affect the social supports available to them.

The above review suggests that environmental events can cause

stress. However as a particular event does not always result in a specific amount of stress there appear to be factors within the individual that affect the degree of stress experienced. Individuals do tend to have characteristic ways of coping but these are not independent of the environment. Coping is best described as a process which changes over time, and the way the individual appraises a situation influences how the person reacts to any given situation.

Appraisal and problem solving appear to be interlinked. An individual with good problem solving skills will be aware that there are likely to be several courses of action open to him. Once he has identified the options available, he will weigh up the pros and cons, considering both the short and long term consequences, before making a decision. Even if the choices open to him are undesirable, it is likely that because he knows he has carefully considered the situation and has made the best possible choice in the circumstances, he will feel more able to follow through a decision despite any difficulties encountered. An individual who uses such an approach is likely to think he has some influence over what happens to him and is more likely to view his situation as changeable. Both these appraisals directly challenge the beliefs (that the individual has no control over a situation and is completely helpless) commonly held by depressed people. The way an individual handles a situation will affect the way he appraises himself and deals with that and future related situations.

From the above it appears that if individuals, particularly women, could be taught to improve their problem solving and decision making skills this would have a beneficial effect upon their ability to cope. In

particular it would affect how they appraise and handle situations which in turn would affect their appraisals of themselves and could influence the way they handle future related situations.

1.5 Learned helplessness, PS/DM and stress

Since Seligman first put forward the concept of learned helplessness (Seligman 1972) a large number of experiments have been conducted to test out the hypothesis that organisms exposed to uncontrollable events often exhibit maladaptive behaviour. For example, naive dogs quickly learn to escape an electric shock by moving to the other half of a shuttle box, whereas dogs who have first been exposed to inescapable shocks show very poor performance in subsequently learning the escape response.

Maier and Seligman (1976) reviewed the animal and human experiments and suggested that the learned helplessness model of depression was the best available theoretical framework for integrating the data from the studies reviewed. They suggested that uncontrollable events resulted in three deficits: motivational, cognitive and emotional. The organism comes to expect outcomes to be uncontrollable, they are then less likely to initiate voluntary responses, in time they become depressed as a result of learning that outcomes are uncontrollable.

Abramson, Seligman and Teasdale (1978) reexamined the learned helplessness model and criticised it on the basis that the learned

helplessness model for humans does not a) distinguish between cases in which outcomes are uncontrollable for all people and cases in which they are uncontrollable only for some people (universal versus personal helplessness), and b) it does not explain when helplessness is general and when specific, or when chronic and when acute. They suggested that when a person finds that he is helpless, he asks why he is helpless. The cause he attributes to his helplessness then determines how generally his feelings of helplessness are applied and how chronic they become, and this in turn affects his self esteem. The causes of his helplessness may be attributed to causes that are stable or unstable, global or specific, and internal or external, and it depends upon the attribution chosen whether the expectation of future helplessness will be chronic or acute, broad or narrow, and whether or not helplessness will result in lowered self esteem. They suggested that attributions of failure of a global, stable, and internal nature were more likely to result in depression.

Bearing the work of Abramson et al in mind it could be that if a person is experiencing learned helplessness they will be less likely to learn ways of problem solving and are less likely to take an active part in dealing with their difficulties as they see the situation as being out of their control and desirable outcomes as being unlikely.

Abramson et al (1978) interpreted the poor performance of depressed patients on anagram tasks as evidence of a general tendency to perform poorly due to their negative expectancies, inability to perceive the connection between response and outcome, and low response initiation. Coyne, Aldwin and Lazarus (1981) developed a

slightly different theory where they saw coping behaviour as having an emotion regulating function as well as a problem focused function. They also emphasised the role of the individuals' environment. They agreed that depressed people perhaps tend to appraise situations as involving loss or threat, they then cope ineffectively and this then adds to the difficulties which they have, and in turn affects how they respond to new situations. Coyne et al (1981) suggested that on the basis of non-clinical laboratory studies it could be argued that depressed people engage in less problem focused coping and more self blame, and this would be consistent with their own view and that of the reformulated learned helplessness model of Abramson et al (1978). However from previous work Coyne (1976, 1976) suggested that depressed people would look for more support from others, but they would do this ineffectively and the result would be an increased feeling of rejection and a greater need for reassurance.

Coyne et al studied depressed and non-depressed people over the period of one year. They asked their subjects what coping strategies they had used to deal with stressful situations. They found that depressed people were more likely to seek emotional and informational support but there were no differences between depressed and non-depressed patients in the amount of problem-focused coping or self blame. They argued that the results were mostly not consistent with the learned helplessness model of depression and that it was necessary to pay more attention to the interpersonal aspects of depression. Failure to control one's interpersonal environment effectively may lead to depression.

Coyne et al's study relied solely upon self-reported thoughts and behaviours used by subjects over a period of one year. The study would have been improved had some observational measures of coping also been used. Also, only 15 depressed people were included in the study. It is likely that there is a great variety in the type and severity of stresses and coping behaviour experienced by individuals during the course of one year so any conclusions based upon so few subjects should be treated with caution.

Although Coyne et al (1981) did not find a difference between depressed and non-depressed people on the amount of problem focused coping they used, Nezu (1986) found that depressed people did rate themselves as poorer problem solvers than non-depressed people. However the two studies were of a correlational nature and so it is not possible to determine whether problem solving appraisal influences depression, or if depression influences the appraisal. This study provided support for the idea that appraisal (as suggested by Bandura 1982, and Lazarus and Folkman 1984) is an important aspect of coping and depression. If individuals believe that they cannot cope effectively they are more likely to experience depressive symptoms. This might be because ineffective coping might result in a sense of helplessness which could lead to depression (Lazarus and Folkman 1984, Seligman 1975). It might also be that problem solving self appraisal may be a good predictor of good problem solving behaviour (Butler and Meichenbaum 1981, Nezu 1985) and this affects an individual's ability to obtain reinforcement from his social environment.

Beckham and Adams (1984) devised a coping questionnaire – "The Coping Strategies Scales" (COSTS) in order to discover which coping strategies depressed people found most helpful. In fact subjects indicated that items relating to problem solving, or to some other purposeful action, planning or cognitive restructuring were the most helpful. Least helpful were items tapping passivity and keeping emotions to themselves.

Another study showed that coping strategies that involved positive action such as information seeking – a problem focused strategy – were helpful for adjustment to physical illness. The helpfulness of the coping strategy appeared to be related to the degree of realism and accuracy of the perceptions involved.

Coping strategies such as wish fulfilling fantasy were not found to be helpful (Felton and Revenson 1984). These results were independent of how controllable the medical disorder was that the subject suffered from. The study used only self report measures of emotional adjustment and as the authors suggest it may be that information seeking can at times serve as an emotion-focused strategy, patients using it to distract themselves, and pay attention to more apparently useful matters.

Summary

From this review it would appear that life events and daily hassles cause stress. However the specific amount of stress induced is not

directly related to the environmental stressor. This suggests that there are factors within the individual which influence the way the event is experienced. Individuals appear to have typical ways of responding to stressful events but these patterns of coping are not independent of the environment. Coping appears to be a process which changes over time, and is influenced by the way the individual appraises himself and the situation.

People who are anxious or depressed appear to perceive situations as threatening and perceive themselves as being helpless to improve matters. Because an individual feels helpless he may react passively to the situation, the situation may then deteriorate, and the individual may then feel even more helpless.

This would suggest that if people could be taught to use more effective problem solving and decision making skills they would be more aware of the realistic possible courses of action open to them and would feel less helpless and depressed. They might then be more able to take positive action to deal with their problems. Positive results of their actions might result in greater self confidence and ability to deal with future related situations. In the next section it will be seen that Duckworth (1983) attempted to answer the question of whether it is possible to teach students generic problem solving and decision making skills. Following that is the question of whether training in PS/DM skills can be used to treat and prevent anxiety and depression in a medical setting. This is a question that the current study attempted to answer.

2. Problem solving and decision making

A. General Review of Problem solving and decision making (PS/DM)

In this chapter the link between emotional disturbance and PS/DM behaviour will be outlined, and interventions which have taught PS/DM skills in an effort to improve coping skills will be discussed. This examination of the literature will not include a review of social PS/DM in children as this has already been reviewed by Urbain and Kendall (1980); Butler and Meichenbaum (1981); Kendall, Pellegrini and Urbain (1981); and Pellegrini (1985). Also the results of studies based upon children may not generalise to adults as there may be great differences between adults and children on relevant characteristics such as stage of cognitive development, and the degree to which external control is exerted over their behaviour. Research and training methods may also have to be different for the two populations.

A1 Evidence that problem solving and emotional disturbance are interlinked

It is a common observation that decision making causes stress, and that when a person is experiencing decisional conflict it may cause them to make rash decisions and not take time to weigh up pros and cons.

Mann, Janis and Chaplin (1969) used physiological measures to show that making a decision is stressful. School staff were confronted with a choice between two unpleasant forms of stimulation, either of

which would fulfill their commitment to the experimenter. Heart rate was measured at the start, during the predecisional period, during the decisional period, and after the experimenter's debriefing. The results showed that heart rate increased and peaked when subjects had to announce a decision, then decreased during debriefing. The physiological measures indicated that the demand to announce a decision acted as a stressor, and they were relieved when they did not have to carry through the decision. The amount of stress experienced when making decisions appears to depend upon the perceived magnitude of the losses the subject anticipates will result from his decision.

Easterbrook (1959) showed that high emotional arousal or stress adversely affects decision making. The more demanding cognitive tasks (tasks where the subject had to make use of a large number of cues, and had a short time in which to make a decision) resulted in poorer quality decisions being made. This was most noticeable on decisions that required the weighing up of alternative courses of action. As noted elsewhere (in the section concerned with the association between stress and illness) there is evidence that stress in the form of life events is associated with increased risk of depressive breakdown, suicide attempts, and relapses in schizophrenic patients (eg. Paykel et al 1969, Paykel et al 1975, Birley and Brown 1970).

The association between psychiatric morbidity, problem solving skills and social competence was examined by Platt and Spivack (1972). The experimenters asked actively ill psychiatric patients to complete the MEPS (Means-Ends Problem Solving vignettes – see

PS/DM assessment section and dependent variables section) and assessed the patients' premorbid level of social functioning. The rationale was that those who were more able to solve interpersonal problems would have achieved a higher level of functioning before the onset of illness. It was found that those with higher levels of social functioning did produce more, and more relevant Means than those who are less socially competent.

Psychiatric patients were divided into good and poor problem solvers on the basis of MEPS scores, and it was found that males who had poor MEPS scores were more likely to be socially inadequate, more clearly schizophrenic, and more clearly psychotic, than those with better scores. Good problem solving skills thus appear to be associated with greater social competence and lower levels of psychiatric morbidity.

Caplan (1981) described, using evidence from his own observations and practice, ways in which stress could lead to an individual being unable to gain access to their memories in an orderly fashion and how this might result in the individual suffering from a poorer self concept. If an individual feels good about themselves and their ability to do things, they are more likely to use problem solving and decision making behaviours. A supportive social network may be helpful in that it reminds the individual of the past and reinforces the individual's sense of himself, and this may directly affect their PS/DM behaviour.

Research evidence that a good self concept is associated with a self appraisal of being a good problem solver was found by Heppner, Reeder and Larson (1983). Students were divided into those who

appraised themselves as good or poor problem solvers, they also completed a battery of assessments including measures of coping and irrational beliefs. It was found that those who saw themselves as effective problem solvers were more likely to have higher self concepts, fewer dysfunctional thoughts and lower self criticism scores, and to be more problem focused. As this study used the Problem Solving Inventory (PSI) (Heppner and Petersen 1982) it is subject to some reservations as detailed in the section on PS/DM assessments. Also self appraisals may not closely reflect problem solving skills and effectiveness.

More recently in a study using assessment measures which are more commonly employed in clinical settings (ie. BDI and STAI) Nezu (1985) found that students who saw themselves as good problem solvers reported lower levels of anxiety and depression. In another paper Nezu (1986) reported that all three problem solving dimensions of the PSI were significant predictors of depression as measured by the BDI. A second experiment showed that a group of depressed people appraised themselves as making less effective attempts at problem solving and felt less able to gain control in problem situations. These results lend support to theories of coping which suggest that appraisal processes are important components of depression (Coyne et al 1981, Lazarus and Folkman 1984). Nezu used the PSI and the same cautions apply as to the Heppner et al (1983) study above. It is not possible to determine if ineffective problem solving and decision making results in increased anxiety and depression or whether depression and anxiety reduce a person's ability to resolve problems effectively. The results of the first study were obtained from students who scored at the extremes of the PSI and so these results may not generalise to more

average problem solvers.

Zenmore and Dell (1983) assessed students' interpersonal problem solving skills when they were well. They found that those with poor problem solving skills were more depression prone (as measured by self ratings of frequency, severity and duration of past depressive episodes) than students with good skills. Although this does not demonstrate a causal relationship between the lack of interpersonal problem solving skills and depression, students with poor skills did report more frequent and severe episodes of depression and the results were not confounded by the subjects suffering from depression at the time of the study. The study does add to the growing body of research which suggests that there is a relationship between interpersonal problem solving skills and psychological morbidity.

Using measures based upon the conflict theory of decision making Radford, Mann and Kalucy (1986) found similar results to those of Nezu (1986). Patients highest on measures of psychoneurotic disorder [assessed using the Middlesex Hospital Questionnaire (Crown and Crisp 1966) and the BDI] were least confident about their decision making abilities. Maladaptive decision making coping patterns, particularly decision avoidance were commonly used. However it is not known how much the slow and avoidant decision making behaviour and the lack of a confidante is due to current illness, the patient adopting a dependent and passive role, or the patient knowing that he is not functioning well and so is trying to avoid making decisions which may be regretted later.

Radford et al's study used only 43 patients who were a

heterogeneous group in terms of DSM-111 diagnosis. To gain a clearer understanding of the relationship between PS/DM and psychiatric morbidity further research employing larger groups of patients from a single diagnostic category is required. The results of patients would also need to be compared with the results of normal controls.

Despite the methodological difficulties mentioned the evidence presented suggests that decision making can cause stress, and stress itself can cause poor decision making. The more disturbed psychiatric patients are, the more likely they are to see themselves, and to be rated by others, as poor problem solvers. Poor self esteem is associated with vulnerability to anxiety and depression. It seems likely therefore that if problem solving skills could be improved this would lead to an increase in the individual's self confidence and would enable individuals to sort out problems and make more of their lives, it might also help to reduce their vulnerability to anxiety and depression in the future.

B1 Methods of Intervention

The literature on interpersonal problem solving is enormous, but much of it is outside the scope of the current study. Instead only work relevant for applications in behaviour therapy will be considered here. Work which led directly to the development of Duckworth's problem solving and decision making package will be discussed first, then approaches which are less directly related but are of relevance to Duckworth's package and the current study.

D'Zurilla and Goldfried (1971) defined problem solving as "a behavioural process which a) makes available a variety of response alternatives for dealing with a problematic situation and b) increases the probability of selecting the most effective response from among these alternatives". They identified 5 stages of problem solving namely: a) a general orientation or "set", b) problem definition or formulation, c) generation of alternatives, d) decision making, e) verification. They saw it as being possible to carry out problem solving training where the individual is in control of the problem solving process and learns how to solve problems for himself. Examples of applying these problem solving stages to clinical cases were given.

D'Zurilla and Goldfried (1971) drew upon the work of Ellis (1962) whose Rational Emotive Therapy developed from his observations that many people tend to have irrational expectations of the world. These individuals expect that certain events "should" or "should not" occur. When things do not happen as they expect they are disappointed or frustrated and maladaptive behaviour may result. Depressed people tend to ask "why-do-these-things- always-happen-to-me" and Ellis thought this suggested that such people do not see such problematic situations as being a normal part of life for which solutions can be found. Ellis (1973,1977) suggested that emotional disturbance results "when an individual commands, insists, and dictates that he must have his wishes or desires satisfied. Thus he demands that he succeed at important tasks and be approved of by significant others; he insists that others treat him fairly and ethically; and he commands that the universe be more pleasant and less rough than it often is". If an

individual has this view of the world it is likely to be self defeating. They will not get on with sorting out their problems and are likely to wait for others to behave properly.

Duckworth (1983) based his work directly upon that of Ellis, and D'Zurilla and Gelfried (1971), and developed a training program to help people apply generic problem solving techniques to their personal problems. Generic problem solving techniques had, until then, received most attention in the fields of education and industrial training (eg. Osborn 1963, Kepner and Tregoe 1965, Parnes 1967, 1975).

Duckworth's program was adapted to make it more applicable to personal problems. A problem was to be identified where there was a discrepancy between the current state of affairs and how the individual would like things to be. Such definitions had been used previously (eg. MacCrimmon and Taylor 1976). This approach also permitted outcomes to be ordered hierarchically (Miller et al 1960).

The fact that most desired outcomes would result in the person achieving some other wished for states of affairs is important in problem solving because if the individual was not able to make one desired state of affairs materialise, he would be aware of the other desired outcomes and might be able to work directly upon them to achieve his more basic wishes.

The program was made up of 8 problem solving stages: a) recognising a discrepancy; b) specifying in concrete terms the actual (or anticipated) and desired state of affairs, so that there was a clear difference between the two; c) viewing the attainment of the desired

state of affairs as desirable, not imperative; d) evaluating the desired state of affairs in terms of its probable effectiveness as a means for bringing about other desired states of affairs which relate hierarchically to it as ends do to means; e) generating alternative strategies for bringing about states of affairs; f) selecting the strategy which promises to be most effective; g) implementing the selected strategy; h) assessing the effectiveness of that strategy (ie. the extent to which it brings about the desired state(s) of affairs.

It was anticipated that the program would help to improve the effectiveness of participants' problem solving behaviour and would result in an increased belief in internal locus of control. Duckworth tested out the program on male student volunteers. The students completed tests before starting the program and they were divided into sets of internals and externals on Rotter's Internal-External Scale (Rotter 1966). They were then randomly assigned to a training group and a no-training control group. The training group attended a 5 week program. The students completed questionnaires in week 1, and 8 weeks after the end of the program, and it was found that the training group achieved a higher standard of bachelors' degrees, developed a more internal LOC, and became more emotionally stable as measured by the neuroticism scale of the Eysenck Personality Inventory (Eysenck and Eysenck 1964).

From Duckworth's study it looked as though male students were able to generalise the use of the PS/DM approach as those in the training group obtained a higher standard of degree than the control group. The increased internal LOC scores were largely sustained at 8 week followup which probably showed that subjects were a) applying

the approach successfully to a variety of situations and/or b) they recognised that there was something that they could do in the situation which would affect the outcome. The lower neuroticism scores in the experimental group may indicate that these individuals were able to apply Ellis's techniques in order to change beliefs and patterns of thinking which led to self defeating emotional reactions, and/or improved problem solving and decision making had resulted in less neurotic behaviour.

Having outlined the work which led directly to the development of Duckworth's package, work which bears more indirectly upon the work above and the current study will be mentioned below.

Although RET can be criticised (Zettle and Hayes 1980) it formed the basis of, or contains similar elements to, a number of other therapeutic approaches [eg. Beck's Cognitive Behaviour Therapy (CBT)(1970), and Meichenbaum's work (1975,1977) aimed at modifying what people say to themselves] as well as a number of coping skills packages.

D'Zurilla and Nezu (1982) in their review of social problem solving suggested that the self instructional model of Meichenbaum (1977) might prove helpful in teaching adults problem solving and decision making as it might help individuals interject thought where before they had behaved impulsively. It might also help individuals identify negative inhibitive self-statements so that they can replace them with problem-solving orientated self-verbalisations. A focus upon problem solving oriented self-verbalisations had been shown to improve the coping performance in studies of anxiety related

situations (Holroyd 1976, Meichenbaum 1971) and creative problem solving (Meichenbaum 1975). Duckworth's package does incorporate the idea of identifying inhibiting self- statements, also the process of teaching a generic problem solving approach to people in a group, where it was hoped that peer pressure would influence participants to adopt a problem solving orientation, made it unnecessary to alter Duckworth's package of demonstrated utility to incorporate more self-instructional training.

The work of Bandura (1977,1978) on self-efficacy expectations suggests that a belief in one's own ability to have some control in a situation is positively related to improved coping in stressful situations. Perception of control is important in problem solving as it may affect whether an individual tries to initiate coping behaviour, and once initiated how much persistence the individual will show in the face of obstacles. Duckworth used the LOC questionnaire to obtain some assessment of the degree to which the subject felt in control of their behaviour and if this increased as a result of his training program. The results showed that for students there was an increase in belief in internal LOC following participation in the training program so it is possible that the same might be found for other populations of subjects.

The idea that it was important to be orientated towards using a problem solving approach before systematic problem solving and decision making could take place was incorporated into the work of Janis and Mann (1977), and Janis (1984) on Conflict Theory. This theory was developed from looking at what people actually do when making decisions. Work on problem solving and decision making prior



to that of Janis and Mann was based upon "Game Theory" and "Subjective Expected Utility" (SEU) Theory which assumed that people behave in a rational manner when making decisions. They assume that people take account of the values and probabilities of the expected consequences of each of the alternative options available to them (see eg. Edwards 1954, Miller and Star 1967, Raiffa 1968). However as descriptive models of decision making have been produced they have led researchers to question how rational we generally are when making decisions (see eg. Broadhurst 1976, Kahneman and Tversky 1979, Simon 1976, Slovic, Fishhoff and Lichtenstein 1977). Although these studies have led to the development of models of how people should make good decisions which have been used in business settings and for professional decisions for physicians (eg. Elstein and Bordage 1979), these methods of decision making have been harder to apply to personal decision making carried out by individuals as they require the decision maker to supply quantitative estimates of the desirability of each of the outcomes and the probabilities of their occurrence.

Edwards' (1954) SEU model allowed for this difficulty of supplying strictly objective and scientific ratings of outcomes and desirability by allowing for subjective estimates to be made. One assumption of the SEU model and other theories of rational decision making is that people will rate an outcome as having the same utility whether the rating is completed just before the decision is made or just after. It appears that this may not be the case particularly if people are ill (Elstein and Bordage 1979).

The "health belief model" (Hochbaum 1958) is subject to essentially similar criticisms as the SEU model (Janis 1984), and

Stone (1979) suggested that there were many other variables that also need to be taken account of when considering decision making in a health care setting, for example the doctor trying to "look good" or avoid blame, and the patient seeking reassurance that nothing is wrong.

The models of rational decision making do not account for why people sometimes do not make rational decisions but will ignore evidence that would induce subjective distress, even if ignoring such evidence may be harmful to them (Hackett and Cassem 1975). Janis and Mann (1977) then developed their Conflict Theory model as they felt that although the rational theories of decision making may be correct for some decision making occasions, these models probably only applied when the decision maker was using a vigilant mode of coping with stress, and not when other methods of coping were being employed. They thought that what determined the effective use of each stage of decision making was the pattern of coping used by the individual to cope with decisional conflict. The more severe the anticipated losses for each of the alternatives available, the greater the stress induced by the decisional conflict.

Stress itself is assumed to be a major cause of errors in decision making, and decisional conflict has consequences for the motivation to make a decision and deal with the source of stress. The decision makers pattern of coping is affected by the presence or absence of 1) "awareness of serious risks for whichever alternative is chosen (ie. arousal of conflict); 2) hope of finding a better alternative; and 3) belief that there is adequate time to search and deliberate before a decision is required." A vigilant pattern of decision making only occurs

when all three of these conditions are met. The model predicts that if conflict (1) is not present, "unconflicted adherence or unconflicted change" would result; if hope (2) is not present, the dominant coping pattern will be of "defensive avoidance"; and if adequate time (3) is not available, "hypervigilance" or panic will result. The Conflict Theory model predicts that people will only rationally weigh up the perceived costs and benefits of a particular course of action when they are using a vigilant pattern of coping. If the individual is predominantly using any of the 4 "defective" coping patterns they will not carry out the 4 essential stages of decision making to arrive at a stable decision [1) accept that a decision has to be made, 2) search for alternatives, 3) weigh the advantages and disadvantages of each alternative, 4) choose a course of action and become committed to it as they inform others of it]. If they do not reach a stable decision they will experience post decisional regret which may entail experiencing feelings of anxiety and rage. It is assumed that all 5 patterns of coping can be used by any adult person although people may have different predispositions to use any particular coping pattern.

Janis (1984) used his "balance sheet procedure" (Janis 1959) and a list of suggestions for promoting a more vigilant coping pattern to help decision makers adopt a more rational approach to decision making and by doing so take into account potential risks and gains of the alternatives available to them. Duckworth's program asks people to consider "resultant discrepancies" that arise from their "primary discrepancy" (ie. the difference between how things are and how they would like them to be) and this encourages people to look at the effects (consequences) of their behaviour and situation from a variety of view points and be aware of these during the decision making

process. So although the work of Janis (1984) was not available at the start of the present study some of the refinements that Janis identified and added to his earlier work were in fact incorporated in the current study.

Cognitive behaviour therapy

Beck (1970,1976) developed "cognitive therapy" in which the client by means of Socratic questioning, rather than by direct confrontation as in Rational Emotive Therapy (RET), is helped to a) discover and detect maladaptive cognitions, b) recognise their negative impact, c) supplant them with more appropriate and adaptive thought patterns. Much of the evidence used to help develop more adaptive thoughts is obtained from behavioural experiments agreed upon in the therapeutic session.

For a review and comparison of cognitive and self control therapies, such as RET, cognitive behaviour therapy, and problem solving, see Mahoney and Arnkoff (1978). These authors saw problem solving approaches as having great potential (pp. 709). Cognitive therapy will not be discussed further here as it was not used in the current study, as a problem solving and decision making approach was thought to have great preventative potential and perhaps to be of greater benefit to a broad spectrum of subjects, the majority of whom were not yet identified as patients and might not have developed very maladaptive thinking patterns.

Fennell (1983) reviewed the evidence for the use of cognitive behaviour therapy in the treatment of depression and its potential for

prevention of future depressive episodes. She concluded that once a patient was no longer profoundly depressed the "maintenance of improvement depends upon the acquisition of generalised cognitive problem solving skills,..., rather than on a fundamental restructuring of underlying cognitive schemata" which is what is involved in cognitive therapy. As the aim of the current study was to select those who were not profoundly depressed, problem solving would appear to be the most appropriate intervention to use.

Following on from the development of rational emotive therapy a number of cognitive approaches with a PS/DM orientation have been developed. Most of these approaches contain similar elements although they have been developed from different theoretical backgrounds. Duckworth's approach appears to be particularly valuable as a preventative coping skills package as it teaches generic PS/DM skills and in the form of a package which individuals can work through a step at a time both for current and future problems. It was therefore chosen for use in the current study.

Models of problem solving and decision making were described and elements of problem solving approaches have clearly been incorporated into many therapeutic approaches. Duckworth (1983) developed a PS/DM training package of particular interest as it aimed to teach generic PS/DM skills in groups. This approach appears to have potential for preventative work as it could be used by individuals to sort out problems and make decisions at an early stage. Thus difficulties could be prevented from developing. Before going on to examine PS/DM interventions and to examine their effectiveness in more detail,

methods of assessing PS/DM abilities need to be examined and these are described in the following section.

B2 Methods of assessment

D'Zurilla and Nezu (1982) considered the question of assessment of social problem solving. They suggested that a clear distinction should be made between problem solving (the process of discovery), solution implementation (the performance of the solution response), and behavioural competence (effective coping behaviour and social skills). Social problem solving (SPS) ability and performance should also be distinguished.

SPS ability is assessed by concentrating upon the problem solving process and assessing the extent of the person's knowledge or their possession of the component skills and abilities which are involved in the process. The method of assessment can be by self report using questionnaires and inventories. Alternatively, written or verbal responses can be recorded and analysed for particular problem solving variables. Scoring reflects the presence of specific component abilities (eg. a clear definition of the problem). An example of this type of assessment would include the Means-Ends Problem Solving (MEPS) Test of Platt and Spivack (1975) which was used in the current study.

Social problem solving performance is assessed by judging the solution derived from the problem solving process. Assessments can be made of the individual's verbal solution, or the individual can be

observed implementing the solution either in the real situation, or in a simulated situation such as in a role play. Measures of performance are indirect measures of ability but the performance may also be affected by factors such as the individual's social skills, embarrassment and motivational factors. An assessment of skill would allow the judgment to be made of whether or not the person had the ability to be a good problem solver, and a measure of performance would permit the assessment of their competence at putting into practice their abilities.

Another factor which may affect PS/DM ability is one's appraisal of oneself as a "good" or "poor" social problem solver and this self appraisal may have predictive power in assessing PS/DM behaviour. Fiedler and Beech (1978) using Subjective Expected Utility (SEU) as their theoretical background found that expectations about the consequences following a proposed behaviour were better at explaining unassertive behaviour than were the subject's behavioural repertoires. Bandura (1978) also pointed to the importance of expectations for performance.

The problems with these methods of assessment are that the measures may not be valid as indices of what actually happens in the real situation. The way the person perceives the situation or what he thinks is required of him may influence the answers he gives. D'Zurilla and Nezu note that other problems can include the habitual use of a response set or style, the disruptive effects of anxiety, and the differential reinforcement on the part of the trainer. They recommended that a problem solving set should be specifically induced in subjects completing problem solving tests; hypothetical problems

should be based upon the real problems experienced by the subjects, although if the subject is familiar with the situation from past experience he may complete the question on the basis of experience and not on the basis of his problem solving skills.

Observational assessment of overt behaviour although it assesses performance has the difficulty of being influenced by previously learned behaviour which is not based upon problem solving skill (eg. modelling, direct instruction learning, and instrumental learning). This method of assessment would be of value in assessing the predictive validity of social problem solving measures and could be used to evaluate the effectiveness of SPS training programmes. Greater control over the assessment situation could be achieved with the use of role playing of problem situations. Ideally a combination of the two approaches (self-report and observational assessment) should be used and this could be done by observing a group discussion of how to solve a problem. It would then be possible to assess the PS/DM process as it occurred.

Another form of assessment that could have been used in the present study was developed by Heppner and Petersen (1982). The Problem Solving Inventory was designed to assess the subject's problem solving confidence, approach-avoidance style, and personal control. Heppner and Petersen found that the results of using the questionnaire with students showed that the factors assessed by this questionnaire were not related to intelligence or social desirability, but were related to LOC. Items were rated on a 6 point Likert type scale where the subject had to check the most appropriate answer (1 = never, 2 = almost never, 3 = infrequently, 4 = frequently, 5 = almost

always, 6 = always). This questionnaire was used by the author with groups of staff of all grades and disciplines working in a psychiatric hospital, and another group of relatives of schizophrenic patients (who were not ill themselves), all of whom had attended problem solving training groups unconnected with the present study. Each group complained that they found the questionnaire confusing as it contained many double negative statements. For example:

When a solution to a problem	1	2	3	4	5	6
was unsuccessful, I do not						
examine why it did not work						

Heppner and Petersen stated that low scores indicated behaviours and attitudes associated with successful problem solving. The author did not agree with the assumption that the low scores indicated successful problem solving behaviour on 17 out of 32 items, so this questionnaire was not considered further for use in the current study.

One of the most extensively investigated methods of assessing individual problem solving behaviour was developed by Platt and Spivack (1975) and colleagues at Hahnemann Medical College in Philadelphia. The Means-Ends Problem-Solving (MEPS) Test assessed the individual's ability to state the steps (means) by which an individual could reach a solution to a problem. This method of assessing PS/DM behaviour was the method used in the present study and is described in more detail in the section on dependent variables. It was critically reviewed by Butler and Meichenbaum (1981), and was mentioned with other problem solving measures by Kendall and Braswell (1982).

Since the start of this study additional work has been published and copies of questionnaires obtained which were not available at the start of the project, they will only be mentioned here.

Mann has produced 2 decision making questionnaires DMQ1 and DMQ11 (personal communication 1985). DMQ1 assesses self esteem as a decision maker, and DMQ11 assesses coping patterns (ie. vigilance, hypervigilance/panic, defensive avoidance, rationalisation, buck passing, and procrastination) which were developed from Conflict theory.

A multiple baseline methodology was used by Hansen et al (1985) to assess chronic psychiatric patients who had difficulty solving interpersonal problems. The patients were trained in interpersonal problem solving skills, and each problem solving skill component was assessed using a multiple baseline methodology and the presence or absence of each PS/DM component was scored. The results showed that training improved the patients' abilities to generate more effective verbal solutions to everyday problems. This method of assessment would be difficult to apply to the assessment of a more heterogeneous sample taught generic PS/DM skills as the type of problems being dealt with would be very varied. Hansen et al also assessed the effectiveness of the solutions and rated them on a 9 point Likert-type scale – similar to the method used by Marx (personal communication 1985) and the current author.

An assessment of problem solving and decision making abilities

needs to record an individual's knowledge of, or the presence of, problem solving and decision making steps. It should be possible to score the assessment measure objectively and this would result in greater interrater reliability. Ideally, direct observational assessments should be used in real life problem situations as self ratings are more open to bias and can be influenced by the subject being aware of the outcome of a particular event. However real life assessments may be difficult to carry out and they are likely to be time consuming and expensive. Written questionnaires such as the MEPS can provide a useful alternative.

The MEPS approach is suitable for use as a before and after intervention assessment. Small changes in the way a subject deals with a problem can be assessed. It is a flexible approach as the vignettes used could be adapted to assess problem situations for which individuals received some specific training during the intervention period. Individual scores can be summed to produce a group score, alternatively a group of people can work together to answer each story to provide a collective response.

B3 Evidence of effectiveness

Once D'Zurilla and Goldfried (1971) had identified the steps involved in problem solving and decision making Nezu and D'Zurilla (1981) examined whether problem solving skills could be improved with training. Three groups of college students were given different levels of instruction in defining and formulating a problem (DFP). One group was given specific, detailed instruction in defining and formulating a

problem, the second group were given only general guidelines, and the third group received no instruction. Each group was divided in half and one half only was given training in decision making. Those who were given DFP and those who received decision making training made better decisions. For the group not trained in decision making, those who received training in defining and formulating a problem made significantly better decisions than those who only received general guidelines for DFP. However it should be borne in mind that improved decision making on hypothetical problems may not generalise to more careful and systematic ways of dealing with real life problems.

As mentioned earlier Duckworth (1983) taught generic problem solving and decision making techniques to groups of students. In addition he encouraged the students to change patterns of thinking which result in self defeating emotional reactions. Duckworth found that those who had received training had better problem solving and decision making scores at the end of training and at 8 week followup than those who did not receive any training. They also obtained a higher standard of degree when they completed their course a year or more later. Furthermore, students who had received PS/DM training had lower neuroticism scores than those who received no training. The effect on neuroticism scores of altering the patterns of thinking cannot be separated from the effects of the PS/DM training here. Either one or both strategies appear to have resulted in decreased neuroticism as measured by the Eysenck Personality Inventory (EPI). The higher standard of degrees obtained by the trained group indicates that it is possible to teach PS/DM skills which can generalise to many aspects of the students lives. The reduced neuroticism scores add further weight to there being a link between increased PS/DM abilities

and decreased psychological morbidity.

Like Duckworth (1983) Marx et al (1984) used a student population. Students who had been found to have high life change scores three years previously were divided into control and experimental groups on a random basis. The experimental group received ten one and a half hour group sessions where the experimenters presented examples of common student problems and discussed or role played how they could be dealt with. The students were asked to role play the same situations and received some coaching in order to improve their performance. Then the students were asked to bring up problems of their own and the group were encouraged to help each other use a problem solving approach to give each other ideas of how to cope with the problems and give each other support. The control group received no intervention. The experimental group reported that they had fewer days of illness than the control group.

This study was a preventative study in that it was an attempt to lessen the health risk of individuals who had high life event scores. It is unfortunate that the experimenters did not use a control group that controlled for the non-specific effects of regularly meeting with other students and discussing common experiences. The relative contributions of attending a supportive PS/DM group and the non-specific effects of attending regular meetings cannot be separated out.

Gath and Catalan (1986) reported an ongoing study conducted in a G.P. setting using patients with mild affective disorder. Here a problem solving treatment delivered by a psychiatrist was compared

with treatment given by the patient's G.P. The G.P. could give whatever treatment she or he preferred. The patients selected for the trial had presented with a new episode of a minor affective disorder which had lasted for over 4 weeks. Patients who had been troubled for over 4 weeks were thought to be at risk of suffering the disorder for several months. No results were available on this part of the study to be reported.

Problem solving approaches have been used with a mixed group of psychiatric patients in a study by May, Gazda, Powell, and Hauser (1985). The experimental group received 28 hours of instruction on interpersonal communication, purpose in life problem solving, and a physical fitness and health maintenance program. The control group spent an equal amount of time in a group which focused on the analysis and exploration of personal problems but no specific coping skills were taught. The results showed that both groups improved on ratings of psychopathological behaviour and health and physical fitness but a slightly greater improvement was found in the experimental group. The differences between the two groups might have been more marked if some patients from the the control group had not sought and received the training in physical fitness and health maintenance on an individual basis.

At followup 12 and 24 months later there were no significant differences between the two groups on rehospitalisation rates, and from the small percentage of patients from the original sample who completed the assessment at followup (32% for the experimental group and 54% for the control group) no differences were found. This intervention appears to have been of some benefit in the short term

and the life skills training program appears to have been the slightly more beneficial intervention. However by follow-up the indications are that with this chronic psychiatric population there was no difference between the two groups. An intervention control group would have allowed the experimenters to assess if an intervention was better than no intervention in the longer term. It would also have been better if patients in the control and experimental groups had been matched for diagnostic category as this would affect the type of cognitive and behavioural deficits experienced, and perhaps the use that could be made of the different interventions. By matching diagnostic category there would be a greater chance of matching the pharmacological treatment received. It was not clear if patients had been randomly assigned to control and experimental groups.

Another study which used a mixed diagnostic group of psychiatric patients was carried out by Hierholzer and Liberman (1986). The authors described a program in which male and female patients were invited to attend a group on a drop in basis and the group could be used as a crisis facility. Patients were helped to select and attain short and long term goals. Problems brought to the group were defined and role plays were used to assess the person's skill deficits. Feedback was given on the role play performance, and modelling was employed to improve performance. Homework assignments were set which were aimed at helping the patient translate into daily life the skills learned. Although this program was not evaluated formally using questionnaires and a control group it was an attempt to encourage patients to think in a problem solving way and to transfer their PS/DM and skill training to their outside lives. As schizophrenic patients may lose some of their gains in social skills training 6-12 months after

stopping treatment (Falloon et al 1977) a drop in facility may help to maintain these skills.

Using a clinical population of chronic psychiatric patients Hansen, St. Lawrence, and Christoff (1985) found that improved interpersonal problem solving skills could generalise to untrained situations and the level of skills attained was on a par with those of a sample of people living in the community. This would suggest that such learning would result in improved social adjustment although this study does not provide direct evidence on community adjustment or severity of illness.

Further work using problem solving interventions with schizophrenic patients was conducted by Falloon and colleagues (eg. Falloon et al 1981, Falloon et al 1982, Falloon and Pederson 1985). Falloon and colleagues (1982) compared individual, educational and supportive, clinic based therapy, with a family intervention which took place in the patient's home. The aim of the family intervention was to reduce stress in the home using a behavioural problem solving approach. The family treatment included many elements including — education about schizophrenia and its treatment, PS/DM approaches were taught, strengths and weaknesses of the family group were pinpointed and deficits were focused upon in the latter part of treatment. Behavioural rehearsal, modelling, feedback and social reinforcement were used to enhance skills and turn taking in conversations. At 9 month followup the family treated group averaged fewer days in hospital and blind ratings of symptomatology were lower in the family treated group. The benefits of the family intervention remained at 2 year followup (Falloon and Pederson 1985).

One problem in comparing the effectiveness of the 2 interventions was that the groups differed in the amount of medication taken with compliance being poorer in the individual treatment group. The difference in medication alone may have resulted in the difference in hospitalisation rates. However if the family intervention improves compliance with treatment this is a positive result of the family approach. The family approach may also have increased family tolerance and understanding of the sick individual and they may have been less likely to have requested admission than the families of the control group. This study demonstrated that the family management approach with its emphasis on problem solving was more helpful in reducing the number of severe episodes of schizophrenia than the individual approach.

Doane et al (1986) working on the same study reported that parents participating in the family intervention made fewer critical and intrusive comments at 3 months than parents of the individual therapy patients. Critical and intrusive comments were associated with risk of relapse for patients in individual therapy; and the family intervention group showed a significant increase in non-emotional, problem solving statements during the course of therapy. The family orientated PS/DM approach may have reduced the risk of relapse during the first 9 months after discharge from hospital by teaching families concrete ways of solving problems and reducing negative emotional interactions within the family.

When considering the results of this study it should be borne in mind that these results were obtained from a small group of atypical

schizophrenics. They were atypical in that all of them were living at home with at least one biological parent, they had all agreed to take part in a two year study, and most families had high expressed emotion scores. When the assessments of family interaction were carried out the family intervention group were assessed in their own homes and the individual treatment group were assessed at the clinic. The settings in which the assessments took place and the family's familiarity with the therapist may well have influenced the way the family behaved. Perhaps if the family assessments had taken place outside the home and clinic on neutral territory, and with an unfamiliar therapist, the assessments would have been more comparable.

Taking these studies together it appears that coping skills can be taught, and training which includes teaching a PS/DM approach shows promise both for the treatment, and prevention, of psychological and psychiatric problems. This has been shown to be the case for both non-clinical and clinical populations. It is likely therefore that PS/DM training will be of benefit when used with a broad population of subjects such as that taken from a health centre population.

Summary

From this review of PS/DM interventions it appears that it is possible to teach problem solving and decision making skills and the effects of such teaching are beneficial for coping. The more tightly controlled studies used student populations. Students appear to be able to learn PS/DM skills in a small number of sessions and the effects of training can generalise to situations outside the sessions and last

many months. It seems likely that the positive feedback resulting from being able to sort out problems and make decisions would be associated with an increase in self esteem and an increase in the use of such approaches in the longer term. Greater use of PS/DM could prevent future problems arising, and could reduce the risk of developing anxiety and depression.

Experimenters using clinical populations found it hard to find suitable control groups. Unless large numbers of clients can be randomly allocated to control and experimental groups, then it is desirable to carefully match control and experimental clients. Matching clients helps to balance between the groups the effects of such factors as diagnostic category, severity of illness, and type and amount of medication, all of which could influence PS/DM abilities and confidence. Despite the difficulties of carrying out clinical trials the studies of schizophrenic patients indicate that the PS/DM training was valuable for the prevention of relapses and for the treatment of people with a psychiatric illness.

Problem solving and decision making training needs to be reinforced especially with clinical populations in order to be maintained. One cost effective way of doing this is to teach the skills to groups of clients so that they can reinforce each other once the training sessions have finished.

As both students and psychiatric patients have learned to use problem solving and decision making skills it appears likely that a very broad population of people could benefit from being taught PS/DM skills in groups, and that these skills would help them to cope more

effectively with their current and future problems.

3. Relaxation

A. General review

There have been a number of recent reviews and summaries of relaxation therapy and the relaxation response (eg. King 1980, Hamberger and Lohr 1984, Carnwath and Miller 1986) so only a brief outline of the area will be given here.

Physiological effects of anxiety

The physiological changes that occur as a result of stress have already been described in the section on physical symptoms of stress.

1. Definitions of relaxation

A number of definitions have been developed and as King (1980) stated they are usually based upon the responses produced by different relaxation techniques. Jacobson (1939) saw relaxation as a state in which respiration became very regular, and reflexes (such as the knee jerk reflex) decrease. Emotional and mental activities diminish. Hess (1957) described the "trophotropic" response where the frequency and amplitude of brain waves, respiration rate, and heart rate all decrease, there is a decrease in muscle tension and anxiety, and skin temperature increases.

Benson, Beary and Carol (1974) suggested that the relaxation response is governed by the hypothalamus and results in decreased

activity in the sympathetic nervous system, and perhaps an increase in parasympathetic nervous system activity.

The above authors view relaxation as producing both cognitive and somatic changes, and Davidson and Schwartz (1976) have also suggested that attention is important and varies along a continuum from active to passive.

B. Methods of intervention, methods of assessment, evidence of effectiveness

1. Methods of producing relaxation

A wide variety of techniques have been used to produce relaxation (eg. yoga, meditation, autogenic training, biofeedback, hypnosis and progressive relaxation training). These methods have been described in reviews (eg. Benson et al 1974, Davidson and Schwartz 1976, Frumkin, Nathan, Prout and Cohen 1978, Taylor 1978) and so will not be described here where only progressive muscular relaxation (PMR) will be considered. As King stated these approaches are based upon a peripheralist theory developed from the work of Hess (1957) and Gellhorn and Kiely (1972). The latter two authors suggested that the balance between the ergotropic and trophotropic systems of the hypothalamus and other cerebral areas could be altered either by direct stimulation of these two systems, or by indirect effects such as changing the afferent input to the reticular activating system and hypothalamus. In animal studies Gellhorn (1958) used curare like drugs

to paralyse muscles which resulted in reduced ergotropic responsiveness in the hypothalamus and reduced hypothalamic-cortical discharges, and the trophotropic system became dominant. Gellhorn and Kiely (1972) suggested that this pattern of responses was reproduced by a number of different methods of relaxation.

Nevertheless relaxed muscles alone are not sufficient to produce a state of relaxation as Smith et al (1947) reported, a human whose muscles had been paralysed with curare did not feel relaxed whilst his muscles were paralysed. It was then suggested that there may be cognitive or central events which are important for relaxation (Davidson 1966).

Evidence for there being a central neurophysiological mechanism which affects relaxation is based upon studies by Obrist et al (1976), and Obrist et al (1974) who argue that cardiovascular (autonomic) and somatic (muscular) events are peripheral manifestations of a common central nervous system effector. The cardiovascular and muscular events are linked by the central mediator. These conclusions were drawn from reaction time experiments in which cardiovascular and somatic responses were measured. So the exact mechanism underlying relaxation is not well understood but central mechanism have been assumed to be important.

2. Progressive relaxation

Jacobson (eg. 1938, 1942, 1970) developed the method of progressive relaxation. The approach involves the subject resting in a

supine position, and alternately tensing and relaxing the major groups of muscles under voluntary control. Gradually the tensing is faded out and the main focus is upon the relaxing. Jacobson suggested that 1-9 one hour long daily sessions were required for each of the muscle groups and training could take up to 50 sessions. Wolpe (1958) then developed an abbreviated version of progressive relaxation (APR) which consisted of six 20 minute sessions with two home practice sessions each day which lasted 15 minutes each.

Bernstein and Borkovec (1973) produced one of the clearest manuals of APR where the subject is asked to go through the following steps 1) the subjects' attention is focused upon the muscle group, 2) the subject is then cued to tense the muscle group, 3) the tension is held for 5-7 seconds, 4) the subject is then given a cue to allow the muscles to relax, 5) the subject is then asked to pay attention to the muscles as they relax. Sixteen muscle groups are dealt with starting with the dominant hand and forearm, and then the biceps. This is then repeated with the nondominant hand and forearm. The subject can be taught to relax in response to a self produced cue, ie. cue-controlled relaxation. The subject is required to practice the relaxation exercises to develop some skill in using them. This method of relaxation was used in the present study except that both hands, arms, and legs were worked upon simultaneously rather than successively.

APR is taught so as to produce a body state which is incompatible with anxiety. Jacobson (1929) suggested that a reduction in muscle tension leads to a reduction in autonomic nervous system activity (in particular sympathetic activity), which is achieved through a feedback

mechanism which is centrally mediated.

The psychological effects of progressive relaxation

Jacobson (1938, 1940) found that relaxation training resulted in reductions in muscle tension, B/P and heart rate but Mathews (1971) pointed out that Jacobson did not use suitable control procedures and he employed a large number of training sessions. Edelman (1970) found that a single session of tape-recorded abbreviated progressive relaxation instructions resulted in reductions in heart rate and B/P but the experimental and control group (who received suggestions to relax, listened to music, and received instructions on skeletal movement) were not significantly different.

In order to determine if APR was able to inhibit the psychophysiological reaction to stimuli which produced stress Paul (1969) demonstrated that APR and hypnotic suggestions inhibited the physiological response to stressful imagery in female psychology students. Further studies showed that relaxed subjects were more able to cope with stressful imagery (phobic stimuli) than non relaxed subjects (eg. Van Egeren et al 1971).

King (1980) reviewed papers seeking to determine if APR reduced the psychophysiological response to stressors more than control conditions and the weight of the evidence suggested that APR did lead to diminished psychophysiological responsiveness (such as habituation of the skin potential response and reduced alcohol consumption) and greater ability to cope with stressful stimuli). The review of studies

which compared different types of relaxation training and used a variety of different ways of assessing psychophysiological responsiveness (eg. electrodermal activity, heart rate, skin temperature) concluded that no clear picture emerged as to what the psychophysiological effects of APR were, and it was not clear what the relationship was between cognitive and somatic aspects of relaxation.

3. Critical features of APR

APR has been used extensively by many researchers but it is not clear what procedural factors are the most important for achieving relaxation. A comfortable position and quiet room, with instructions presented clearly and repetitively appear to be helpful (Bernstien and Borkovec 1973; Goldfried and Davidson 1976). Comfortable physical surroundings assist relaxation (eg. Benson et al 1974; Fee and Girdano 1978), and live instructions appear to be more effective than taped instructions (eg. Beiman, Israel and Johnson 1978; Russell, Sipich and Knipe 1976). These factors were all taken into account in the present study. Borkovec and Sides (1979) in their review of 25 studies concluded that studies that showed significant physiological relaxation were more likely to have employed multiple subject controlled sessions, and used subjects for whom physiological reactivity was a part of the presenting clinical problem.

4. Abbreviated progressive relaxation used as a single therapy

Relaxation has been used as a single model therapy and compared

with other treatments. There have been problems with finding suitable control conditions for the methods being compared eg. Goldfried and Trier (1974) arranged for subjects to discuss various topics with the therapist instead of receiving APR. The suitability of this is open to question. Steinmark and Borkovec (1974) devised a study to neutralise the effects of the subjects' expectations upon outcome. They compared relaxation only, desensitisation, and a control condition of "quasi desensitisation" in the treatment of insomnia. In imagination the control subjects were asked to pair a hierarchy of items with neutral images rather than with relaxation. An instruction was also given where subjects were told not to expect any improvement until the fourth treatment session. Throughout the treatment period the desensitisation and relaxation only groups improved (in average minutes taken to fall asleep). They also improved during the period when they were told to expect some improvement. The control subjects did not improve before the fourth session. After the fourth session (when the expectation of improvement changed) the control group improved quickly and were not distinguishable from the treatment groups at post test. There were no significant differences between the groups at 5 months followup but the two treatment groups continued to improve after treatment whereas the control group did not.

The foregoing research however relies upon self reports of latency of sleep onset and hours awake during the night, so the reliability and validity of the dependent measures are not known.

King (1980) reviewed the use of relaxation used as a single model

therapy and he stated that "Generally, outcome of APR as a single-model therapy has been positive, with desired somatic, cognitive performance, and behavioural changes being reported by researchers". He also concluded that "no one method of relaxation appears to be consistently superior as a single model therapy".

One study carried out since the review by King and conducted at the same time as the current study was by Eayres et al (1984). In this study a group relaxation training approach was compared with a coping skills package which included: muscle relaxation; anxiety management training; positive self talk; behavioural targeting; self reinforcement and self monitoring. There were eight sessions and the subjects were referrals of people with "generalized anxiety" taken from a waiting list from a hospital psychology department, and a later group of subjects were seen at the specific request of their GP's. The Spielberger STAI (Spielberger et al 1970) and visual analogue scales were completed several times including before and after treatment, and at 6 month followup, as in the present study. The Symptom Checklist was used instead of the GHQ28.

The results were inconclusive with just a slight indication of the superiority in the coping skills package group. The authors concluded that the lack of a significant difference between groups was perhaps due to the fact that both interventions were very effective so it was difficult to demonstrate clear superiority of one intervention over the other. The coping skills package contained many elements, and many subjects had difficulty learning how to use the skills taught in the time available. Because of the number of skills being taught in the

coping skills package group there was less time available for subjects in that group to chat to each other and give each other support. The authors also noted that some subjects were less willing than others to take an active part in learning coping skills and this may have had a greater impact in the experimental group where more skills were being taught than for the control group.

The number of subjects involved in the study was only 43 and 30 completed the study. There was a differential dropout rate from the two groups with 32% of subjects dropping out of the coping skills package group compared with 22% from the control group. The numbers in each condition were therefore small, and the differential dropout from the two groups may have favoured the experimental group as the results of those who had difficulty with what was being taught were not included in the outcome assessments. The study used four therapists but two of the therapists were involved in running both experimental and control groups and the risk of contamination between treatments was a possibility.

It can be seen in the following sections that the active involvement of the subject in learning coping skills is important, and that there is a growing body of evidence from the studies carried out with individual subjects and with groups of subjects, that relaxation training is a valuable coping skill to learn and may be particularly useful when taught as one of a battery of coping skills each of which can be applied as appropriate to different problem situations. Another possibility is that skills are taught in order to help the person reduce the physiological symptoms of anxiety which in turn facilitates the

learning of other coping skills which are aimed at dealing with the cause of the stress. Studies which incorporate the teaching of relaxation plus other coping skills to individuals, and then to groups, are outlined below.

5. Relaxation as an active coping skill

Goldfried (1971) put forward the use of relaxation as an active component in systematic desensitisation. He suggested that the patient use the sensations of arousal as a cue for the employment of relaxation techniques. The use of relaxation techniques in a wide variety of situations should then result in a more general reduction in anxiety than simply using relaxation exercises in a passive way resulting in reciprocal inhibition such as proposed by Wolpe 1958, and Suinn and Richardson 1971).

Hamberger and Lohr (1984) looked at a number of studies which compared the use made of relaxation exercises where subjects were instructed to use the exercises in an active or passive manner. The authors concluded that if subjects were taught to discriminate the physical sensations of anxiety and to use relaxation exercises when they recognised these sensations, there was less need to use specific imagery in a systematic desensitisation hierarchy. They suggested that the more active method of coping led to more efficient and adaptive coping which in turn resulted in less wear and tear upon the individual. However none of the studies they reviewed incorporated physiological measures of relaxation which if the results were in the same direction would have added more weight to the conclusions

reached.

King (1980) also reviewed the use of APR as an active in vivo coping skill and suggested that relaxation training was best used as an active coping skill. He outlined the five steps he thought important in teaching this method of relaxation. The first step was to teach subjects to recognise early signs of tension. They were then to be involved in planning how to relax under stress. Subjects went through some "conditioning trials" where the subject practices muscle tension and release relaxation exercises and is encouraged to focus upon physiological events (unconditioned stimulus). The fourth step involved in vivo application of the relaxation skill. Finally the need for further practice in APR was stressed as the tension cue cannot continue to serve as a continuing means of attenuating stress without further practice in APR. With further practice the cue reacquires its power as a conditioned stimulus.

Despite using relaxation as an active coping skill the problem remains that relaxation training only treats the symptoms of stress it does not treat the cause. More cognitive approaches, such as PS/DM, are needed in combination with relaxation training. The relaxation training may help calm the patient sufficiently so that the patient can concentrate upon other more cognitive approaches.

6. Relaxation techniques taught together with other coping skills

6.1 Individuals

Studies which compared treatments incorporating relaxation and used individual subjects will be considered next. McLean and Hakstian (1979) studied outpatients suffering from clinical depression. They compared 10 weeks of psychotherapy, behaviour therapy, drug therapy, and relaxation therapy. All treatments were carried out on an individual basis but could involve the patient's spouse. The results showed differential dropout rates between the treatments both for the patients and the spouses. The behaviour therapy treatment involved helping the patient to interact with the environment in such a way as to increase the chances of positive feedback. A hierarchy of goals was drawn up and then graded practise and modelling techniques were used to improve communication, behavioural productivity, assertiveness, decision making and problem solving, and cognitive self control. Patients were encouraged to practise skills daily and record their progress. They were helped to draw up plans for coping with possible future depressive episodes.

Behaviour therapy was found to be the best treatment on 9 out of 10 measures, including the Beck Depression Inventory, at the end of treatment, and only just superior at 3 month followup. Psychotherapy produced the worst results. There were no significant differences between relaxation therapy and drug therapy. Neither client cluster type nor therapist experience interacted with treatment. It was found that there was a differential dropout rate between groups and the reasons given by the patients were that they could not see the relevance of the treatment to their problems (relaxation and psychotherapy patients), the side effects were unacceptable and they did not like a passive treatment (amitriptyline patients), or the

patients wanted to look more at the existential aspects of their depression experience (behaviour therapy patients). As few drug and psychotherapy patients were available at followup this may have produced a slight false positive effect for these two groups.

The relative success of the relaxation treatment which should not theoretically be a sufficient treatment for depression suggests that a number of nonspecific variables affect treatment outcome. For example the patient's expectations of treatment and the rationale for the treatment and the course of illness may be important. There were five factors in the behaviour therapy which the authors suggested might be important in the success of the behavioural treatment namely: high treatment structure; a social learning rather than a disease model rationale; goal attainment focus; externalised interests; and social "prophylaxis". In addition to showing that relaxation training is a useful approach for the treatment of stress, behaviour therapy, which includes PS/DM, also appears to be of value.

Jannoun et al (1982) reported results which suggested that modified anxiety management training was a useful approach for an outpatient population suffering from moderate to severe anxiety and panic attacks.

Waddel et al (1984) then carried out 3 case studies of men suffering from panic disorder. The experimenters used cognitive therapy followed by relaxation training combined with cognitive therapy using a multiple baseline design. All 3 subjects experienced a reduction in the number of episodes of intense anxiety and this

improvement was maintained at followup 3 months later. However 2 of the subjects reported an increase in background anxiety during the phase of combined treatments. Relaxation induced anxiety was also reported by Heide and Borkovec (1983) when they asked generally anxious subjects to focus upon muscle tension. As muscle tension was associated with increased anxiety for these people, perhaps focusing upon the tension simply adds to their anxiety, so relaxation training may not be of benefit to all patients suffering from anxiety and there may be a distinction to be drawn between those suffering from generalised anxiety and those with panic disorder.

Another study which provided treatment on an individual basis was conducted by Lindsay et al (1987). They compared the use of cognitive behaviour therapy, anxiety management training (which included progressive muscular relaxation training and imagining situations in which they had felt anxious whilst relaxing), treatment with benzodiazepines, and a waiting list control for the treatment of generalised anxiety. Measures taken before and after treatment and at 3 month followup (including the GHQ28) showed that the greatest and most immediate improvements were found in the benzodiazepine group. As the trial progressed however these improvements decreased and were very small by the end of the trial. The other two treatment groups improved as the trial continued and greatest improvements were seen in the cognitive behaviour therapy group. Nevertheless there were no significant differences between these 2 groups at followup.

This study selected patients with more than 3 points on the anxiety section of the GHQ28, and patients with more than 3 points on the

depression subscale were excluded from the study. The patients were referred by their G.P.'s and suffered from chronic anxiety for at least one year, the average duration being 2-4 years. A total of 40 patients were randomly assigned to one of four groups. This study showed that psychological treatments including relaxation training are of value in the treatment of chronic anxiety but there is no clear difference between cognitive therapy and anxiety management training.

6.2 Groups

This section does not mention controlled group intervention studies which involve PS/DM as they are mentioned in the chapter which reviews PS/DM. This leaves studies which incorporate relaxation training into the teaching of a package of coping skills. These studies have not unfortunately used a control group who received muscular relaxation training alone as part of a carefully controlled trial.

One study which has considered the teaching of coping skills from the point of view of a preventative intervention was conducted by Decker et al (1982) but it used a student population. Subjects were taught progressive relaxation, stretching exercises and cognitive restructuring. The subjects were self selected as being interested in attending an elective course on stress management. They attended 12 biweekly training sessions. The control group attended a required course involving research and program evaluation but they were not taught anything relating to stress and its management. There were no significant differences in ratings of stress or irrational beliefs at the start of the course, but the experimental group showed a significant

reduction in these ratings from pre to post test and at 6 month followup. The control group showed no such significant decrease.

The training resulted in maintained improvement at 6 month followup. This may have been because the subjects had successfully dealt with the problems occurring during the training period and were still benefiting from this, but it is also possible that the reduced number of irrational beliefs in the experimental group reflected a learned change in attitudes which resulted in reduced stress in that group.

The indications from this study are that a non-clinical group of adults who are of above average intelligence and who are interested in taking an active part in learning stress management techniques (including relaxation training) can be taught skills which are of lasting benefit in preventing stress.

A clinical population was used in a study by Cormack and Sinnott (1983). They identified patients with anxiety who had taken benzodiazepine medication constantly for over a year. The patients were sent a letter by their GP advising them to reduce their medication and they were offered help in the form of groups run by psychologists to assist them in breaking their habit of taking benzodiazepines. Letters were then sent by the psychologists inviting patients to attend the groups. The groups lasted 11-13 weeks and involved teaching muscular relaxation techniques; self-monitoring of thoughts; and the substitution of positive for negative statements. Patients recorded the number of pills they took and were followed up 5

and 10 weeks after treatment.

Out of a possible 50 patients 11 patients continued in group treatment beyond the first week. Five of these patients significantly reduced their pill consumption and this was maintained at followup. Out of the 31 who did not attend groups 12 successfully reduced their pill intake. No information was available for those who did not attend an interview prior to the start of the groups. The group intervention resulted in no more success than the GP's letter but it may be that those who attended the interview for the groups knew they would have difficulty reducing their pill taking. The patients who failed to reduce their pill taking tended to be older (over 60 yrs.) and had poor learning ability. The authors thought they also lacked the motivation to reduce their medication. This study shows the difficulties of trying to teach a clinical population stress management techniques when the patients may not be very able, or motivated, to reduce their pill taking and take responsibility for managing their anxiety.

More recently Butcher and de Clive-Lowe (1985) tried to increase the chances of selecting a population who were motivated to take an active role in managing their stress, and who felt able to make use of education classes. These subjects were likely therefore to be a more able group than those used in the Cormack and Sinnott study.

Butcher and de Clive-Lowe (1985) designed a 12 week course of adult education evening classes. They based their approach on ideas similar to those of Adkins (1984), Lazarus (1975), and Gazda (1984). Adkins developed educational courses designed to teach people life

skills and self help. Audio teaching tapes, video modelling, information sheets, simulation exercises and personal counselling were all used in groups of 10-15 people.

Lazarus's (1975) package was called Multimodal Behaviour Therapy (MBT) the aim being to teach a variety of specific treatments which could be used to tackle any individual's multitude of problems. Multimodal behaviour therapy attempted to use a systematic problem solving orientation which focused upon behaviour, affect, sensation, imagery, cognition, interpersonal relationships, diet and physical exercise. Gazda (1984) developed Multiple Impact Training (MIT) which used didactic teaching, practice of skills and homework as a central part of treatment. Gazda had noted that most patients had more than one set of problems. Once presenting symptoms were identified and interpreted as skills deficits, then the individual was put in a training group to be taught life skills. The skills taught came under some of the following headings: interpersonal communication, purpose in life, vocational and career development, problem solving, family/marital relationship, and vocational/career development.

Butcher and de Clive-Lowe's project included teaching strategies to improve self awareness by making people more aware of their thoughts, images (fantasy and dreams), emotions and sensations (5 senses). There followed an information package on anxiety and progressive relaxation exercises were taught. The class was then encouraged to be more aware of worrying thoughts and negative statements and to substitute more positive self statements. Thought stopping and distraction techniques were also taught. The importance

of life events for stress and the need to put oneself in the other person's shoes "in order to understand others better" and develop more rewarding relationships was underlined. Participants were then encouraged to become aware of their own needs and feelings so that they could develop ways of satisfying them. The final sessions were more of a discussion group where the participants were encouraged to describe their own problems and help to solve them. At three month followup the members of the class were invited to review their progress since the beginning of the course and to discuss any remaining difficulties in overcoming personal problems.

This study did not use any controls but was evaluated before and after the course and at followup. The authors used the Personal Causality Scale (PCS)(de Clive-Lowe 1982) in order to measure changes in locus of control. They found an increase in LOC by the end of the classes and this was maintained at followup. However apart from not having a control group, the numbers completing the questionnaires were small (23, 14, and 10) over the course of the study. So, many people dropped out of the course but for the core who remained there appeared to be some benefit.

There is now a need to try to separate out the different contributions of the various elements of intervention packages to see which elements, or combinations of elements, are the most effective. It is difficult to find suitable control conditions, particularly for clinical trials, which control for the non-specific effects of the interventions. One way this difficulty could be minimised would be to give the same basic intervention to control and experimental groups,

and the experimental group would receive one additional element of the package. This would enable the experimenter to assess the contribution of the extra element.

Summary

In this chapter studies using muscular relaxation training have been reviewed. It appears that relaxation training is generally helpful in reducing the somatic symptoms of anxiety and this reduction in anxiety symptoms may enable subjects to make better use of other coping skills which may also be taught. As relaxation exercises are a symptom focused approach more effective stress management is likely to be achieved if relaxation exercises are taught together with other more cognitive and problem solving approaches. It appears that it is more effective to teach active rather than passive coping skills and these skills do not have to be taught on an individual basis but can be taught in groups. The best results have been obtained in studies using more able subjects, such as students, and the poorest results obtained from clinical populations with long established maladaptive patterns of coping. There is a need to establish if it is possible to teach members of the general population who are not identified as patients, but who might be at risk of requiring professional help, coping skills which include relaxation techniques. These techniques appear to be of benefit to clinical as well as non-clinical populations and can be taught in groups which makes the teaching of these skills a more economically viable proposition.

4. Overall summary and implications for design of present study

Most individuals experience stress in their lives. Stress often occurs as a result of a life event and of having to make a difficult decision. Stress is experienced as unpleasant, and occurs when individuals perceive a mismatch between what is required of them and their abilities to respond to a situation. This may be accompanied by physical changes which add to the individual's perception of not being in control of the situation. Individuals who are stressed tend to avoid situations or act impulsively. They are also more likely to develop anxiety or depression and become physically ill.

Several well established researchers have come to view coping as a process which is mediated by cognitions. The way an individual perceives the situation and himself will affect how he behaves. The outcome of his behaviour will in turn affect how he perceives future similar situations and his own ability to cope with them.

People who are depressed or anxious become less able to cope as they think they, and the situation, are hopeless and they are afraid, or see no point, in trying to improve matters. As their behaviour does not improve matters they become more convinced of their own incompetence and this further undermines their self esteem. Good coping on the other hand appears to involve taking an active part in trying to tackle problems. Those who cope well appear to use more problem solving behaviours.

This suggests that problem solving and decision making training would be useful for improving coping. It encourages people to identify

problems and goals, and to weigh up the pros and cons of the courses of action open to them before making a decision. Identifying potential cons alerts people to think how to minimise or avoid them. By dealing with problems at an early stage the person should have fewer, and less severe, problems to deal with. This may result in reduced vulnerability to anxiety and depression and greater confidence in the individual's own ability to cope. Researchers who have trained students in PS/DM skills have obtained a decrease in neuroticism scores and students felt more in control of their lives. Problem solving and decision making training with psychotic patients has also been beneficial resulting in greater social competence and a reduced relapse rate. PS/DM training would appear to be of value in the treatment and prevention of psychological disturbance. Relaxation training also appears to be of benefit when used alone or in combination with other interventions.

The clinical studies that have been carried out have tended to use small numbers of subjects who were not randomly allocated to control and experimental groups. They also employed several intervention strategies as part of a package so that the individual contribution of one part of the package could not be assessed. The implications of this were that it was decided in the present study to assess the value of PS/DM training using a larger number of subjects who were randomly allocated to control and experimental groups. As it had been shown that training could be carried out in groups this method of teaching was used as it had the added advantages of being more cost effective than an individual intervention, and individuals within the group could provide each other with support once the groups ended. It was hoped that this would help to reinforce the use of the PS/DM skills as clinical studies indicated that PS/DM skills need to be reinforced in order to be

maintained. Relaxation training was selected for the control condition as it can be carried out in groups which would help to control for the non-specific effects of attending a regular group meeting and it could be used as an active coping skill. The study was designed so that control and experimental groups would receive relaxation training and only the experimental group would be taught PS/DM skills. It could then be seen if the PS/DM training was more beneficial than the relaxation training alone.

As both patients and students had previously benefitted from PS/DM training, and it had been shown to be of benefit in the treatment and prevention of relapses in psychiatric patients, it was thought to be a good intervention to use with a broad population of vulnerable people in order to assess the value of PS/DM training in the prevention and treatment of psychological distress. The population chosen in the present study were people attending their GP for an ordinary clinic appointment as it is commonly recognised that patients are more likely to visit their GP at times of stress. Chapter two goes on to examine the nature and characteristics of psychological distress in general practice and the general population.

Chapter 2

1 The size of the problem

1.1 The assessment of psychiatric morbidity

It has long been appreciated that many people who consult their GP's are suffering from psychological difficulties at the time of their consultation. The problem has been in determining which patients are ill and which are experiencing normal psychological problems which are the result of difficult circumstances and can be coped with. It is necessary to define what is meant by psychiatric morbidity before estimates of psychiatric morbidity can be made.

Shepherd et al (1966) in their review reported twenty studies which had morbidity rates varying from 3.7% to 65%. This wide variation in morbidity rates may have been due to the different methods used to sample and define populations, and the different lengths of time the studies employed to assess prevalence. Generally the studies used some form of clinical interview in order to make the assessments. At that time there were no standard interview techniques or standard questionnaires which could be used to assess morbidity and which would allow more useful comparisons to be made between studies. More recently standardised interview procedures and questionnaires have been developed. These will be briefly mentioned in connection with studies of morbidity in the general population and general practice in order to ascertain the size of the problem. Difficulties in defining morbidity and how these difficulties influenced the development of the present study will be mentioned.

1.2 Morbidity and the use of structured interviews

Several instruments have been developed to assess morbidity based upon a psychiatric interview. For example Wing et al (1974) developed the Present State Examination (PSE) which is a standardised interview which took as its starting point the normal clinical psychiatric interview. The Schedule for Affective Disorders and Schizophrenia (SADS) was devised by Endicott and Spitzer (1978) and used the same starting point. Both instruments should be carried out by experienced clinicians who have received training in the use of these techniques in order to increase inter rater reliability. Some clinical judgement and skill is also required before a symptom can be recorded as present. Using the PSE Wing et al (1981) reported prevalence rates for all psychiatric illnesses in the community of 9% to 20% in urban Western communities. The PSE was developed to include an Index of Definition (ID) which is an index of the degree of confidence with which a particular psychiatric diagnosis can be made. They found that there was a relationship between the confidence with which a person could be placed in a particular category and the prevalence rate obtained. When people who could not be confidently placed in a category were excluded the prevalence rate decreased to around 15%. Using a different methodology Sturt et al (1984) calculated the life-long morbidity risk for depressive disorder in the general population. The estimates were based upon an incidence study which used the Camberwell case register for the year 1976 and so was founded upon treated prevalence. Only first degree relatives mentioned in the case notes with an indication of their age and sex were included in the analyses. Rough estimates of the age of onset had

to be made for many of the relatives. The estimates of lifetime risk of depression obtained were 12% for men and 20% for women.

These figures are similar to those quoted by Boyd and Weissman (1981) whose review of the literature led them to conclude that the life time risk of depression for men was 8-12%, and 20-26% for women in industrialised nations. One problem with the study by Sturt and colleagues was that there may have been a number of patients included in the study where the previous psychiatric contact history was not known and this would affect the accuracy of the figures for age of onset. The study also used clinical diagnoses rather than standard diagnostic instruments which would allow more accurate comparisons with other studies to be made. There are of course difficulties with the reliability of diagnostic procedures and the diagnoses may change over time. Retrospective reclassification may occur. The retrospective assessment of the psychiatric history is subject to error as it relies upon the subject's or relative's memory and knowledge of what happened, as well as their compliance. However, a prospective study of a local population in Sweden, carried out over a 25 year period 1947-62, and which used standardised diagnostic instruments (Hagnell et al 1982), found similar rates to those reported by Boyd and Weissman but the rates appear to increase after that time. Around a quarter of the general population of women in the West may be at risk of developing depression which is clearly a significant problem.

More recently Craig et al (1987) considered the comparability of survey results for depression in the general population. They concluded that the results of surveys which used the PSE-ID-CATEGO system of

psychiatric classification were very comparable if similar sections of the populations surveyed were compared. Craig et al suggested that the most reliable results were measures of the symptoms present over the month before the PSE interview as they were less vulnerable to problems of recall, and this information should form the basis of comparisons between the studies. When similar sections of the population were examined; namely working class women with a child at home; using an ID level 5 to discriminate between cases and non cases, the prevalence rates were found to be similar in London (Islington 23.1%, Camberwell 25.0%) and the rate for Edinburgh was 18.2%. As the way the ratings were done were similar for the three populations, it is likely that the differences in prevalence rates reflect real differences in the different populations. By using standardised interview techniques there appears to be a growing consensus therefore concerning the prevalence rates for psychiatric morbidity in the general population.

The above were all studies of prevalence rates of psychiatric morbidity, mainly depression, in the general population, using standardised interview techniques. Structured interviews are time consuming for use in large scale survey type projects. They, like questionnaires, rely upon what the patient says and the patient may not be an accurate informant. The following section will consider the use of standardised questionnaires.

1.3 Morbidity and the use of standardised questionnaires

One of the first questionnaires to be developed was the General Health Questionnaire (Goldberg 1972, Goldberg and Blackwell 1970).

This questionnaire could be completed quickly and had the advantage over the interview methodologies that it could be administered by people who had little clinical psychiatric experience. It did not rely upon the clinical judgement of the interviewer to rate the patient although it still relied upon what the patient said about themselves. For details of the questionnaire and its development see chapter 3, section 4.

Goldberg et al (1976) used the GHQ to assess psychiatric morbidity in consecutive attenders at a general practice and the results were compared with those of a systematic random sample of patients drawn from the same practice. It was found that those who attended their GP were more psychiatrically disturbed than those in the random practice sample. Even when patients who were attending their GP specifically for psychological problems were excluded, the attenders remained the more psychiatrically disturbed. The authors stated that the probable prevalence rate for the random sample was around 12% for minor psychiatric morbidity, and 30% for those attending their GP. They noted that men were less likely to attend with their symptoms than women, and if they did attend were less likely to give a psychological presenting complaint.

Benjamin et al (1982) used the 60 item GHQ with a sample of 92 women aged between 40-49 years and calculated the sensitivity of the GHQ for picking up cases was only 54.5% when 25% of the subjects scored 12 or more. Hobbs et al (1983) used the GHQ60 for a survey of 1517 Scottish women aged between 20-60 years. The results were factor analysed and a validation study using the Clinical Interview Schedule (CIS) (Goldberg et al 1970) was carried out. The results

indicated that the GHQ60 is a valid instrument for detecting the presence of current psychiatric disturbance in a general practice population list of women and the estimated prevalence rate was 30.4%. Hobbs et al used a much larger sample of women than Benjamin and they had a wider age range with more high and low scorers.

Ingham and Miller (1976) pointed out that no-one has been able to define operationally what the threshold should be for classifying a person as psychiatrically ill. It appears that individuals vary along a continuum from well to ill, and wherever the threshold, it is a somewhat arbitrary dividing line. Ingham and Miller (1976) suggested comparing distributions of severity for patients and non patients and by doing this no arbitrary thresholds of illness need be set. Although there is now more consensus about where the threshold should be set in order to discriminate between the general population and existing psychiatric patients, this approach still results in patients as being classified as ill without it being asked if they fulfill the requirements for a psychiatric illness or not. Ingham (1982) pointed out that there is no perfect distinction between members of the general population and patients, so that 15% of the general population have been classified as cases and about 15% of psychiatric outpatients, and even some psychiatric inpatients, have not the criterion of being psychiatrically ill.

Defining a case is not only difficult but can have negative social consequences for those who are labeled as ill, it may therefore be better to avoid putting such labels upon people. Foulds (1976) produced a model which did not simply distinguish between well/ill, but incorporated the idea that there might be a level of impairment where

the individual is distressed and requires others to act upon his/her behalf, and the person may try to find ways to restore his/her "person-hood". If the person fulfils these criteria (s)he is "personally ill". Being "personally ill" implies that the existing relationships between the individual and his/her social environment have essentially broken down. In order to determine if a person is personally ill, observations of their social functioning and coping mechanisms need to be made in addition to notice being taken of their signs and symptoms. One difficulty with the concept of personal illness is that it includes the idea that the individual must seek a way of restoring themselves but people may be ill and not do anything about it. Ingham suggested that epidemiological studies should look for ways to detect people who were around the borderline for being ill and try to devise ways of detecting those who are at risk of becoming ill. Ingham stated that approximately 17% of health centre attenders admitted to having anxiety and/or depression and around one half of these people were over the threshold of personal illness on the Foulds Bedford Scale and could be at risk of becoming ill. Of relevance to estimating morbidity Ingham and Miller (1976) found that patients who were diagnosably ill were more likely to consult their GP than those who were distressed but could not be classified as ill. Severity of symptoms as assessed by individual linear analogue scales were the best discriminating factors between those who consulted their GP's and those who did not. However those who did not consult tended to be more chronic sufferers with lower average severity scores than consulters. It would be misleading therefore to use symptom prevalence as an indication of the amount of untreated morbidity in the population. Those with chronic problems, especially depression, may have decided that visiting the GP is not worthwhile whereas those

with an acute onset may be more likely to visit as they think something can be done about it.

Taking these studies together it can be said that using clinical interview approaches the rate of morbidity in the general population varies from around 15-26% for women (and 8-12% for men). When standardised questionnaires have been used, the rate of morbidity for women in the general population is around 12%, and for a GP population of women 12-30%. Neurotic illness is therefore a significant problem in the general population and a major problem for women attending their GP.

When considering the size of the problem of neurotic illness in general practice, an important question is, what happens to patients with neurotic illness in general practice in the normal course of events? This question will be examined in the following section.

1.4 Characteristics and Outcome of affective disorders in the general population and general practice

Mann et al (1981) pointed to the large number of psychotropic drugs prescribed in general practice as an indication of the size of the problem. The authors quoted Parrish (1971) who stated that one in five prescriptions dispensed by pharmacies in England and Wales are for psychotropic drugs with 38% being tranquillisers, 15% antidepressants, 11% hypnotics. Murphy (1976) found that personality factors were of significance in determining outcome, and Huxley et al (1979) showed an association between social factors and improvement in neurotic illness.

Mann et al carried out a prospective study over a period of one year using a multi-axial assessment approach. They developed the Social Supports and Stress Interview (SSSI) which was a semi structured interview which tried to assess stresses and supports in each major area of life (eg. occupation, housing, finance, etc.) in terms of their significance to the individual, instead of using weightings derived from broader population norms. A second assessment procedure used "The Standard Assessment of Personality". The subject and the interviewer fix upon a period when the subject was symptom free and they are asked to report upon that period. Groups of standard questions are used to focus on one personality type and the interviewer has to determine if the features of that personality type are present. The National Morbidity Survey (HMSO 1974) was used as the basis for the sample of patients with different types of problems selected.

Patients attending their GP were screened using the GHQ30 and the patients' case notes were examined by research psychiatrists and a provisional diagnosis made. If the GP and the psychiatrist both recognised the presence of a psychiatric disorder the patient became a potential subject. The psychiatrist then used the Clinical Interview Schedule (CIS) (Goldberg et al 1970) and the Social Supports and Stress Interview and PSE. The SSSI was also completed by an informant nominated by the patient. Throughout the next 12 months the case notes included a card which the GP completed at every consultation. Physical and mental state, social changes, treatment prescribed, length of consultation, and referrals made, were recorded. The patients were assessed again after 12 months.

The results showed that the initial estimate of severity of psychiatric morbidity, and the rating of the social life at the follow-up assessment, were predictive of psychiatric state after one year. Social factors were more important in the pattern of illness especially the rapidity of the recovery. Those who were continuously ill during the year were older and more likely to be physically ill and to have received psychotropic medication. Patients who had received drugs, were more likely to have been given a diagnosis of depression, to be older and to have been assessed as having a personality disorder at the initial assessment. At the 12 month follow-up half the patients had improved; a third improved in 6 months; a third had a variable, intermittent course; and a third had chronic persistent symptoms. These results are very similar to those reported by Huxley et al (1979) using psychiatric patients. However the cohort followed up was only 93 patients so firm conclusions cannot be made from this study. Sex was not associated with outcome although the authors acknowledged that their study only included patients where the GP recognised the presence of psychiatric disturbance and GP's tend to under diagnose psychiatric illness in men. The sample may also have been biased by not being representative of men as a whole, only "consulting" men, whereas because women are more likely to consult their GP the sample of women in the study is more likely to be representative of ill women as a whole.

When the natural history of depression in general practice was examined, Dunne and Skuse (1981) found in a twenty year period (1957-1976) that women were more likely to become depressed than men, and they were less likely to recover. However women were always more likely to be recognised as depressed than men, although

in the more recent years this difference became less apparent. This study was based on the records of a single general practitioner and could only include patients who remained on his register. Nevertheless it appears that proportionally the loss of cases from the register was the same for all age groups so this should not have greatly affected the sample. If the GP knew that the patient had been depressed before he might be more likely to diagnose depression a second time and so women would again be more likely to be in the preponderance. During the period of the study, specific antidepressant medication became available for the first time and this may have stimulated the diagnosis of depression latterly. As more effective treatments became available there was a greater need for accurate diagnosis.

In a later paper Dunn (1983) followed up the patterns of anxiety and depression in the general practices that took part in the Second National Morbidity Survey (RCGP 1980). He used data collected from 6 years worth of records. Each patient's record was examined and if there was one or more episodes of depression in a particular year the patient was coded as depressed that year and well otherwise. Dunn outlined the statistical methods used to determine if there was any interpractice variation in episodes of anxiety and depression. The results indicated that women of all ages were more likely to be ill than the corresponding men and the sex difference was more marked for depression than anxiety. The middle-aged appear to be more at risk than the younger age group. However once men have been diagnosed as being anxious or depressed the course of illness is much the same as that for women. Large scale studies of GP records should not be taken at face value because many factors, apart from illness and the GP's ability to make a diagnosis, affect whether the patient attends the GP

(eg. the GP's attitude and personality, and whether the patient thinks there is any point to visiting the GP) and more intensive small scale studies may be unrepresentative.

Sireling et al (1985) looked at three groups of patients with depression in general practice, a) patients prescribed a new course of antidepressants, b) those given other treatments, c) those missed by the GP but detected by screening (using the GHQ30) whilst patients were waiting for an appointment with their GP. Patients who scored 5 and above were then interviewed a week later at home. A screening interview based upon the Schedule for Affective Disorders and Schizophrenia (SADS) (Endicott and Spitzer 1978) was used, and patients who were found to have a major depressive disorder using the Research Diagnostic Criteria (RDC) (Spitzer et al 1978) were examined further. All patients were interviewed at home and the PSE, RDC, and Hamilton Rating Scale for depression were used. From the PSE, the ID and Bedford College Criteria of caseness (Brown and Harris 1978) were devised. This study tried to get representative samples of patients attending their GP with depression. It did not depend upon the GPs to identify cases. The results showed that patients receiving other treatments were generally less depressed than those who were given antidepressants. The group who were missed by GPs were selected upon very stringent criteria; nevertheless slightly more than half the patients with major depressive disorder go undetected by their GP. This compares with the results of Goldberg and Blackwell (1970) who found that GPs failed to detect about a third of presenting psychiatric illness; and Brown and Harris (1978) found a fifth of definite cases were untreated by their GP. The results showed that the majority of depressed patients were women who were married and

under 40. Most cases were mild and scored at or just above the threshold on the ID, and were recorded as mild or borderline diagnoses on the other measures (the RDC, and BCC).

Comparisons were made between 3 methods of identifying anxiety and depression in primary care (Von Korff et al 1987). The GHQ28; the Diagnostic Interview Schedule (DIS); and the GP's assessment were compared. The researchers found that over half the patients seen in a primary care clinic were identified as having an anxiety or a depressive disorder by one of the three methods of assessment. Only about 5% of patients' findings were positive on all 3 assessments simultaneously. The GP's and GHQ identified more than 30% of patients as having a disorder.

In a replication study Boardman (1987) compared the use of the GHQ28 and GP assessments in detecting emotional disorder in general practice. The GHQ results showed a prevalence rate of 42.9%. The GP's estimated a much lower level of morbidity. The pattern of results obtained were similar to those of Marks et al (1979) in a study carried out in Manchester where the prevalence rate obtained was 39.6%. The GHQ appeared to be a better detector than the G.P.s' of emotional disturbance in the community.

Blacker and Clare (1987) reviewed work relating to depression in primary care settings and noted that although diagnostic instruments such as the PSE and RDC have resulted in greater comparability between studies they do not take into account factors which may have an important effect upon the G.P.s' decision making and ability to diagnose emotional disturbance. These factors include personality and

physical illness. Studies involving retrospective searches of case notes are problematic in that GP's may fail to detect morbidity in the first place, or they may fail to record it in the notes. The authors concluded that it was likely that there was a group of patients in the community who were depressed but who may not be identified by their GP, and because they lacked certain features (threatened self harm, personality difficulties, alcohol abuse) they were unlikely to be referred to the psychiatric services. It is not clear what happens to such patients. Depressive disorder forms 8-10% of consecutive patient consultations and is the commonest formal psychiatric disorder in general practice.

Having obtained some idea of the numbers of people who suffer from emotional disorders in primary care and community settings it is necessary to examine what normally happens to these people.

1.5 Course of affective disorders

Goldberg and Huxley (1980) estimated that in a random sample of 1000 people, 250 will have psychiatric symptoms, and 230 of those will go to their GP. The GP will recognise 140, out of the 230 people, as having a psychiatric disorder, and will treat the majority of those disorders him/herself. Only 17 people will be referred to a psychiatric hospital and the most common psychiatric diagnosis made in a random community sample is of depression.

About 40% of depressions remit within one month with no treatment (Appleton 1988). By 6 months to one year the majority of minor affective disorders have cleared up but some do persist longer

(Kedward 1969, Corney 1981, Mann et al 1981). Several studies report that around a third of people attending their GP for psychological reasons remain persistently troubled by psychological symptoms (Shepherd et al 1966, Goldberg and Blackwell 1970, Andrews and Brodaty 1980).

Generally treatment of these people has consisted mostly of drugs (Williams 1980, DHSS 1982), or drugs combined with advice (Brodaty et al 1982). Carnwath and Miller (1986) briefly summarized the treatments for depression and noted that around 40-50% of patients with depression suffer relapses. They also summarized the features of and treatments commonly used for anxiety. There are now a number of outcome studies which compare medication with cognitive behaviour therapy, but as these interventions were not used in the current study they will not be examined here.

From the above studies it can be seen that affective disorders are a significant problem in the general population and although the majority of minor disorders resolve within a short period there is a group of people who are at risk of going on to develop a more severe disorder. Those troubled by a more severe disorder are at risk of the disorder running a chronic course, or, the person may recover but be at risk of relapse. As Gath and Catalan (1986) suggest the efficacy of prescribing drugs to these people is questionable when perhaps they could be identified at an early stage and taught more effective ways of coping with their difficulties. Their evidence to date suggests that patients who receive counselling are not disadvantaged compared with patients given anxiolytic medication. Therefore counselling, or the teaching of coping skills, may be valuable ways of helping people to

cope better and may reduce the likelihood of a chronic problem developing.

Summary

It appears that affective disorders are a common problem in the general population. They are better recognised in women than in men. Those who attend their GP generally have more severe symptoms, are more troubled, or express their symptoms in a way that is more likely to require intervention (Brown et al 1985). So to select a group of people at risk of breakdown or requiring help, a good starting point would be to select those who attend their GP. GP's fail to detect a significant number of patients troubled by anxiety and/or depression especially when patients are only mildly to moderately troubled. A preventative study that aimed to select mild to moderately distressed women from a general practice setting, where the selection procedure did not depend upon information from the patient's GP, is likely to encompass a significant number of women. A proportion of these women may be "at risk" of developing more severe illness and at least in the earlier stages they may go undetected and so receive little support to help them cope with their difficulties. A proportion of these people may go on to develop a chronic disorder and suffer frequent relapses.

2 Objectives of the study

The aims of this study were to select a group of people who were stressed, but not yet identified as ill, to determine if it is possible to teach people skills which help them to cope better with current and future problems.

The population selected were people attending their GP for an ordinary clinic appointment as it is known that many people who attend their GP are suffering from stress. It was hoped to identify people at an early stage to determine if it is possible to prevent people becoming ill and requiring professional help. People who are mildly distressed are more likely to be motivated to improve their situation. They are also more likely to be receptive to new learning and to effect appropriate changes in their lives than very distressed people.

A cost effective intervention was desired so the study was designed to be conducted in closed groups lasting six sessions. Groups would also provide attenders with support once the training sessions finished. Both experimental and control groups were to be taught relaxation techniques, and in addition the experimental group were to be taught generic problem solving and decision making skills to determine if the addition of PS/DM training was more beneficial than the relaxation training alone. PS/DM skills, and anxiety and depression were assessed before and after the intervention, and again at followup.

By casting a wide net and including all sorts of people and problems

in the first instance it was hoped to determine if all people, or only certain types of people and problems, benefit greatly from this type of intervention. Future work can then focus upon the most productive areas and helping people gain maximal benefit from such interventions.

3 Requirements of an intervention package and variables to be assessed

One requirement of an intervention package is that it teaches specific skills which are clearly defined. The use of a manual or tape recorded set of instructions helps to standardise and clarify what is to be taught. A manual and handouts given to participants also helps to ensure that each participant has access to the same information. Clear objectives for each session permit video recordings and tape recordings to be used to check if the group leader and participants have achieved specific objectives within each session.

The same requirements need to be met by the control intervention as the experimental intervention. As far as possible it should contain all the same elements as the experimental intervention except for the one key aspect of the intervention under investigation.

A further requirement of intervention and control packages is that it is possible to objectively assess their impact by carrying out assessments before and after the intervention. The assessments ideally should incorporate standard questionnaires which can be used for repeated assessments, they should also include objective as well as subjective assessments.

Duckworth's (1983) PS/DM package permitted the above requirements to be fulfilled, and a group relaxation training intervention provided a suitable control group as it controlled for factors such as: number and length of sessions, size of group, and the active involvement of group attenders. Duckworth's package and

relaxation training were particularly appropriate for this study as they can be used by people who are well or ill. PS/DM is not primarily a "therapy" which focuses on changing illness related behaviour as is the case with cognitive therapy or RET for example. Duckworth's package focused on one broad approach and did not introduce many additional types of intervention to confuse the picture. The package did however incorporate notions taken from rational emotive therapy which enhanced the use that could be made of the PS/DM approach.

In relation to dependent variables the requirements were met in the present study by using standard self report questionnaires of anxiety and depression (GHQ28, BDI, STAI, DSSI/SAD) and PS/DM ability was assessed using the MEPS. These questionnaires are suitable for use in a repeated measures design if used infrequently and on few occasions. For a more objective rating of the patient the patient's GP was asked to complete a linear analogue scale (LAS) giving his or her impressions of the patient over time. The number of visits made to see the GP for a period before, during, and after the intervention, and the reasons for those visits were recorded. Tape recordings of the sessions were also made so that checks could be carried out that the correct intervention was being adhered to and equal amounts of time given to control and experimental groups. All the dependent variables used are discussed in more detail in the dependent variables section of the methods chapter.

4 Overall plan of the study

The plan of the study was: first to select a group of women "at risk" of developing anxiety and/or depression for which they may

require professional help within the next few months; second to conduct a group problem solving and relaxation training intervention study which aimed to increase ability to cope; third to determine if this intervention group were better able to cope, and were less prone to anxiety and depression than the control group who received relaxation training alone. Patients were assessed before and immediately after the intervention and at 6 month followup using self report measures and more objective measures, such as the GP's rating of the patient, and medical case notes information.

Aims

The aims of the study were to: 1) select a population of women vulnerable to subsequent anxiety and depression 2) randomly allocate subjects to a control group who were taught progressive muscular relaxation (PMR) and an experimental group who were taught problem solving and decision making techniques in addition to PMR 3) determine if these skills can be taught in cost effective groups 4) determine if the experimental group were less anxious and/or depressed, and felt more able to cope than the control group when assessed at the end of the groups and at 6 month followup. The hypothesis was that the addition of problem solving and decision making training would be more effective than relaxation training alone in helping patients 1) to identify and manage current problems, and 2) to prevent future difficulties developing.

Methods1. Population

The study was conducted in Livingston, a new town, with a population of around 40,000, which is situated 15 miles from the centre of Edinburgh. Three separate health centres were involved in the study. The pilot study was carried out at Dedridge Health Centre which has six G.P.s and a patient population of 8,375. The main study was carried out at Carmondean Health Centre which has 10 G.P.s and a total population of 17,845, and Craigshill Health Centre which has five G.P.s and a total population of 6,710.

Health centres in Livingstone were chosen as figures were available from a previous study (Ingham and Miller, 1979) for the numbers of patients who admitted to having symptoms of anxiety and/or depression when they were screened at their Livingstone Health Centre in a manner similar to that employed in the present study.

Subjects for the present study were selected from women aged between 16 and 75 years who attended their GP for a general surgery appointment. Although because of the difficulty of obtaining enough suitable subjects one patient of 14 yrs. and one of 77 yrs. were ultimately included in the study. Women attending appointments in special clinics held at the health centre (e.g. the antenatal clinic) were not included in the study.

2. Pilot study

A pilot study was carried out in order for the experimenter to:

- (a) determine what proportion of patients would attend groups out of those invited to attend,
- (b) practise using the generic PS/DM approach with groups of patients
- (c) determine what size of group would be optimal for the main study.

The pilot study was conducted at Dedridge Health Centre. Prior to conducting the study, each GP was written to and a meeting arranged between the G.P.s and the experimenter and clinical supervisors. The

details of the proposed study were discussed at the meeting and permission to conduct the study was sought and obtained.

2.1 Screening procedure

The experimenter was seated at a desk close to the entrance of the health centre in a position where it was unlikely that patients in the waiting area could hear what was said. As each woman reported her arrival to the receptionist, she was asked to speak with the experimenter prior to seeing her GP. Initially the aim had been to complete the screening procedure before the woman saw her GP, in order to prevent the interview with the GP having an effect upon what the patient said about her feelings of anxiety and/or depression. To complete the questioning before the patient saw her GP proved to be impracticable in some cases so for those cases questioning had to be completed following the appointment with the GP. However, it was hoped that asking the patient how she had felt over the past few days would keep the effect of contact with the GP to a minimum.

The patients were asked questions based on those used by Ingham and Miller (1979) to discover if the patient was presenting with a new episode of illness (i.e. were "new episode presenters"). The patients presenting with a chronic complaint were excluded from the pilot study. By excluding patients with a chronic complaint, it was hoped to exclude all patients already receiving treatment for chronic medical or psychiatric complaints.

Once it was established that the woman was presenting with a new

episode of illness, each woman was asked if she had suffered from symptoms of anxiety and/or depression within the last few weeks. Only women who said they were troubled by feelings of anxiety and/or depression were included in the study. If the woman indicated that she felt troubled she was asked to complete the Foulds and Bedford DSSI/SAD scale (Bedford and Foulds 1978). These women were told about the groups that the experimenter proposed to run following the completion of the survey and were asked if they would like to participate in such a group. It was explained that the interviewer proposed to run a group at the health centre, once a week for five weeks, and that the aim of the group was to teach problem solving skills that could be applied to any situation from small everyday problems, to much larger problems that are difficult to cope with. As everyone has some problems in their lives from time to time, the group could be useful for anyone wishing to learn more about ways of coping with such problems. Relaxation exercises would also be taught in order to help the woman to calm herself and to enable her to apply the problem solving techniques to problematic situations.

Women who were interested in attending such a group were asked to supply personal details such as name, address, date of birth, and the reasons for the current visit to the GP and an explanation was sought as to the causes of the feelings of anxiety and depression. Each woman was asked to complete a set of five linear analogue scales measuring anxiety, depression, anger, ability to cope with life's difficulties, and expectations of the group (see appendix iii). It was thought that the linear analogue scales would discriminate between subjects scoring within the normal range more effectively than a standard questionnaire. The LAS's might show small changes in rating which

would not be sufficient to cause a change in category on a standard questionnaire.

In addition to the linear analogue scales, each woman was asked to complete a set of four Means Ends Problem Solving vignettes (Platt and Spivak, 1975). Initially only two vignettes were presented, but later the number was increased to four as they took little time to complete. Each vignette was read out loud to the subject and the woman was also allowed to read it to herself. Each woman was asked to tell the experimenter how the subject in the vignette could get from the situation described at the start of the vignette, to the situation described at the end of the vignette. The interviewer recorded the woman's responses. All the above questionnaires were to be used again at the end of the groups.

Following the completion of the screening procedure, the woman was thanked for her assistance and the times when the woman could attend such a group were noted. It was pointed out to each woman that it would not be possible for reasons of time and space to include everyone in a group who might wish to attend, therefore the woman should not be disappointed if she did not hear from the experimenter again. If she had not heard from the experimenter within the next few weeks, she need not think any further about it. However, if there were room, the woman would receive a letter outlining the details of the group and inviting her to participate in it.

The screening procedure was carried out at the health centre for seven and a half days and a total of 34 of the women screened fell into the "personally ill" or "personally disturbed" categories of the

DSSI/SAD scale. The G.P.s were asked to identify for the experimenter any patients with chronic psychiatric or medical problems that might affect the functioning of the nervous system as such disorders might affect the patient's feelings of anxiety and/or depression and of being able to cope in a way that was independent of their learning to solve problems and make decisions. The five patients who fell into this category were then excluded from the study. The G.P.s could at this stage say if there were any patients they would rather exclude from the study for special reasons (such as very recent bereavement).

2.2 Groups: 1st group subjects and outcome

Two groups were held as part of the pilot study. The main aims of running the groups were to enable the experimenter to familiarise herself with using the package with this population and to determine if there were any changes that should be made to the package and the design of the study before commencing the main study. For the first group, 16 patients falling into the "personally disturbed" category, and three patients from the "personally ill" category with scores of less than 15 (out of 40) on the DSSI/SAD (which allowed room for more severe scores to develop) were invited to attend the group. It was hoped to obtain a group of up to 12 patients in order to see how feasible it was to run a group of this size. Three patients attended the first group session, two of whom fell into the "personally disturbed" (PD) group and one belonged to the "personally ill" (PI) group. Following the first session one PD patient dropped out of the group. This woman's husband had died two months previously and she stated that she wanted company and was not really interested in learning about

problem solving techniques. She appeared to find it difficult to understand what was being said to her and was slow to respond. This lady may well have been depressed. She may, in addition, have found it difficult to grasp new ideas as she was elderly and looked old for her years.

Of the two patients who remained in the group, one who fell into the PD category tried to complete her homework assignments each week, and said she had felt she had benefitted greatly from the sessions. She would have liked more sessions, preferably given on an individual basis as she found there was a great deal to absorb in each session.

The other patient fell into the PI category and was in fact being seen monthly primarily for phobic problems by the clinical psychologist based at the health centre. This patient was very easily distracted and lacked concentration. She behaved in a chaotic manner, losing various sheets of the package and failed on all except one occasion to do her homework. This patient was a very dependent person and would avail herself of any help offered without being prepared to put the advice offered into practice (e.g. she would have liked to have been "given" relaxation sessions each week, even though she had been taught the exercises by the health centre clinical psychologist two years previously and she had a relaxation tape in her possession which she was still being encouraged to use).

Both patients did rate themselves as calmer and were better at problem solving on the MEPS vignettes at the end of the five sessions, although the patient who had worked to learn the techniques improved

the most.

Before the start of the group patients were sent letters inviting them to the group. They were also asked to complete a slip stating whether or not they would be attending the group and they were asked to return the slip in the envelope provided. Three patients said they would attend and were the same three patients who did in fact attend the group. Six patients replied that they would not be attending the group. The remainder failed to reply.

Once it was established that so few patients would be attending the group, letters were sent out to all patients who had not come to the group asking them to complete the questionnaire and return it in the SAE provided. The questionnaire asked the patient to indicate the reason for non-attendance. The reasons enumerated on the questionnaire were:- the time being inconvenient; not wishing to talk about problems in front of a group; feeling they did not need to come to a group; or preferring the group to be run by someone else. Space was left for other reasons to be supplied if different to the above. Eight patients replied, four stating the time was inconvenient; three saying they did not feel they needed to come to a group; and one saying that she would prefer not to talk in front of a group. In the same letter these patients were asked if they would like to attend a second group, also to be held in the morning. One patient, who had been on holiday at the time of the first group, said that she would come to the second group but ultimately failed to attend.

2.3 Second group: subjects and outcome

For the second group, a further nine patients were invited to attend. Seven of these patients belonged to the PI category and two were rated as normal on the DSSI/SAD scale. Six patients attended the first session (two normals, and four PI's), but two failed to attend further sessions which left four patients (two normals and two PI's).

Two of the four patients failed to attend one session each due to illness, and one of these patients came for an individual session in order to make up for the session missed. A third patient failed to attend the last group session and so no results were obtained for her. This patient had been greatly upset at the time of the fourth session and had asked for extra help at the end of that session. She had discovered that her husband was heavily in debt and debt collectors had called at the house that morning. She had believed her husband when he told her their affairs were now in order. At the end of the extra session in the fourth week, it was the patient's intention to encourage her husband to seek a referral to a clinical psychologist for help for himself and for help for them both as a couple as their marriage was now in jeopardy. It was assumed that the patient failed to attend the final session as she was receiving help elsewhere.

The other three patients said that they had both enjoyed the sessions and found them interesting. All three thought they would use at least part of the package in the future and felt they had benefitted from looking in new ways at their habitual way of thinking.

All three patients achieved higher scores on the MEPS. The results were less clear-cut for the measures of anxiety and depression,

although most of the anxiety/depression scores decreased. One patient's anxiety score had increased slightly and it was thought that she had become better at labelling some of her problems as being exacerbated by anxiety. This patient had cervical spondylosis and had previously thought that all her discomfort was due to this condition, however she discovered that the relaxation exercises were very helpful in reducing her discomfort and that much of her pain could be relieved by relaxing. She was therefore better able to separate out the effects of anxiety from her physical complaint at the end, than at the beginning of the five weeks. Consequently she rated herself more highly on the anxiety scale at the end of the study, although she had stated that she felt much better able to calm herself and that relaxation helped her. She also felt less like withdrawing into herself and more able to go out and meet people again which she enjoyed doing.

2.4 Changes made to the main study based on the experience of carrying out the pilot study

2.4.1 Design

In order to obtain large numbers of subjects it had been hoped to work in two health centres simultaneously with the help of other interviewers to screen patients for the groups. However, due to the lack of available funds, it was not possible to recruit extra interviewers. Because of this, and because of fewer than hoped for numbers of patients actually attending the groups and coming to all five sessions, it became necessary to change the design of the study.

The first design had employed two control groups, one controlling for amount of therapist contact, and they were to have received relaxation training, and the second control group were to be a no-contact control group who received no intervention. As the numbers of patients willing to participate in the study were likely to be smaller than originally anticipated, it was decided to employ only one control group. The aim of the study was now to compare two interventions and see if the PS/DM intervention was more effective than just relaxation training on its own in treating and preventing the development of anxiety and/or depression.

Once the pilot study had been completed, it was possible to estimate more realistically the number of subjects that needed to be screened in order to obtain a reasonable number of patients attending the experimental and control groups. It was found not to be possible to select a health centre for the study where the patient population was sufficiently great to allow the experimenter to screen in one health centre for two periods of seven weeks. This would have permitted a design where patients selected in the first session of screening would have been divided into an experimental, and a no contact (no intervention) control group. Then if the experimental group were found to benefit from the intervention following the second period of screening in the same health centre, the patients could have been divided into an experimental group and a control group that received therapist contact and relaxation training. The third period of screening (which would have had to have taken place at a different health centre because of the limited size of the health centre populations) would have employed a relaxation (contact) control group. By doing this it would have been possible to some degree to separate out the

differences in outcome being due to the different interventions received, from the differences being caused by different patient populations.

One difficulty of employing two control groups was that it was likely that patients who received no intervention might well be unwilling to come to the health centre to complete questionnaires on three occasions. There was a risk that there would be an insufficient number of patients to provide a reliable control group. It was therefore decided to employ a single control group who would receive the relaxation training intervention. It was also decided to introduce an extra individual session into the training package. This session was to be given after the third or fourth session depending upon how well the patient was understanding the package and depending upon whether or not the patient had a problem they wished to discuss in private. The choice of timing of the individual session was to be largely left up to the patient. Experience of running the pilot study showed that two patients felt they would have benefitted more from the package if they had been able to talk about what was troubling them at an earlier stage and then they would have been better able to concentrate upon the remaining sessions.

A further change was made necessary due to the small number of patients attending groups. No longer were only new episode presenters to be included in the study. Patients with problems of some duration, or problems that recurred would be included in the study at the time of screening. Once the screening procedure was completed, the number of new episode presenters were to be counted and then a decision made as to whether the numbers were sufficient to allow patients who were

not new episode presenters to be excluded. The screening questionnaire was altered in order to record information about the nature of the presenting problem and its duration (see appendix iii). The patient's GP was still asked to exclude those with a psychiatric history or a medical problem that was likely to affect the patient's level of anxiety and/or depression. The effect of this alteration was likely to be that patients with more severe anxiety and/or depression would be included in the study, and so a smaller proportion of the patients in the study would be seen at the beginning of an episode of anxiety and/or depression which could be expected to worsen. The study would therefore become more of a treatment intervention than an early preventative intervention.

2.4.2. Screening procedure and assessment

The screening procedure was also altered in order to speed up the process of screening so that patients did not get tired of waiting to see the experimenter and leave before they could be seen (see appendix ii).

The screening questionnaire was altered so that patients were no longer asked detailed questions about the symptoms of anxiety and/or depression but were simply asked if they had suffered from anxiety and/or depression during the past few weeks. The detailed questions were thought to be unnecessary as most patients were willing and able to answer direct questions about anxiety and/or depression, and Ingham and Miller had found it to be a satisfactory way of selecting patients who became "clinically ill" one year later. All assessment questionnaires were to be completed by patients at the start of the

groups and the population to be studied was defined as being those patients who attended groups.

As patients were to be asked to complete questionnaires whilst part of a group, the questionnaires needed to be ones that the patients could complete themselves unaided. It was thought that the GHQ28 would be a better questionnaire for this purpose than the DSSI/SAD scale. It was developed as a screening instrument in the primary care setting and was suitable for patients who were well, in addition to those who were psychiatrically ill. It would also be sensitive to changes in the patient's psychiatric status over time and had separate scores for anxiety and depression.

Summary of alterations made on the basis of the pilot study to the aims and procedures of the main study

The screening procedure was altered to incorporate a wider range of patients although notes were made which would allow the population under study to be defined more rigorously should the numbers of suitable subjects obtained be sufficiently large to permit this.

The plan was to select a group of women "at risk" of developing anxiety and/or depression for which they would require professional help within the next few months. Then to conduct a group problem solving and relaxation training intervention which aimed to increase a person's ability to cope, and to determine if this intervention group were better able to cope, to solve problems and make decisions, and were less prone to anxiety and depression than the control group who

received relaxation training alone. Patients were assessed before and after the intervention and at six months follow-up using self-report measures and more objective measures, such as the GP's rating of the patient, and medical casenotes information.

3. MAIN STUDY

3.1 Population

It was thought important to conduct the main study in different health centres to the health centre used in the pilot study. This was to avoid the effects of contamination occurring between patients who had been involved in the pilot study and patients who were later recruited into the main study. None of the health centre populations used were adjacent to each other and it was hoped that by conducting the pilot and main studies in different areas of the town, the risk of contamination was reduced.

3.2 Design

The study was designed to be conducted in two sections. Each section involved a period of screening patients at a health centre followed by a five week period of running patient groups - one set of experimental groups which included relaxation training and problem solving and decision making training, and one set of control groups which included relaxation training alone. The first section of screening and running groups was conducted at Carmondean Health Centre followed by the second section at Craigshill Health Centre. The six month followup groups were later carried out at the two health centres respectively.

All patients attending groups were asked to complete questionnaires and scales at the first session, and at the end of the fifth session and again at six month followup. The questionnaires and

scales used were: GHQ28; MEPS; STAI (state anxiety only); BDI; linear analogue scales (LAS's) of anxiety, depression, coping, anger, and expectations of the group; coping checklist – used at follow-up; a homework record; and a record of the number of visits the patient made to the GP.

The G.P.s were asked to complete LAS's of the patient's levels of anxiety, depression, coping and anger at the start of the groups and at follow-up. They were also asked to record each visit made to see the GP during the period of the study and to tick if there was a psychological component to the visit (see section on dependent variables for details).

3.3 Method

The G.P.s in each of the two health centres involved in the main study were contacted and a meeting between them and the experimenter was arranged. The project was discussed and permission to conduct the study in the health centre was sought and obtained.

3.3.1 Screening procedure

As for the pilot study, the experimenter sat a desk in a section of the waiting area close to the GPs' surgeries. Patients were directed to speak to the experimenter by the receptionists following their appointment with the GP. The patient was asked if she was a new episode presenter and was questioned about the chronicity of the problem. She was then asked if she had recently been troubled by feelings of anxiety and/or depression and to what degree (see appendix

iii). Patients who admitted to feelings of anxiety and/or depression were told about the groups that were to be conducted and each was asked if she would like to attend one of the groups. If the patient wished to attend, the times when the patient would be able to attend the group were noted. The reasons for the patient's distress were recorded and later categorised as being due to medical, psychological, medical and psychological, or social reasons. It was pointed out that for reasons of time and space, it would not be possible to fit everybody into a group, and the patient was to think no more about it if she had not heard from the experimenter by a certain date, otherwise, she would receive a letter inviting her to a group and supplying her with the details of where and when the group would take place. The patient was thanked for her co-operation.

When the experimenter was unable to be present for one day to screen the patients individually, the questionnaire was handed to the patient by the receptionist to be completed and returned in the box provided which was placed near the main door of the health centre. However, most patients screened in this way had to be excluded from the study as they did not complete the questionnaire in a satisfactory manner as many questions were left unanswered.

Patients taking antidepressants and patients who had mentioned a past psychiatric history to the experimenter at the time of screening were excluded from the study. The names of the remaining patients who were troubled by anxiety and/or depression were given to the G.P.s to examine so that any remaining patients with a past psychiatric history could be excluded. For details of the screening procedure and the random allocation of patients to groups and the

outcome of the groups and follow-up procedure (see section "Subjects").

The procedure for the first session was the same for the experimental and the control groups. The experimenter introduced herself to the group's members and asked group members to do the same. The group was asked for permission to tape record the sessions and the reasons for this were explained. The tape recordings were necessary in order to be able to check that the experimenter kept strictly to the procedure for the experimental and the control groups. It was explained to the groups that the experimenter was trying to find out which of two types of groups were the most helpful and their cooperation was sought in attending the groups regularly, and letting the experimenter know in advance if they would be unable to attend and then an alternative arrangement could be made so that they did not have to miss a session. The necessity of filling in questionnaires at the start and end of the groups and at six month follow-up was explained. Group members were asked not to discuss the details of the content of the group with people outside the group, so that contamination between groups did not occur, and group members were asked to keep confidential any information they gleaned about members of the group. Patients were also asked for their written permission so that the experimenter could ask their GP how they were and the experimenter could consult their medical notes to check if necessary on details, such as what medication the patient had been prescribed. The format of the five group sessions and one individual session and the six month follow-up was explained. All patients were promised a relaxation tape that would be given to them at the last group session.

Patients were asked to complete the questionnaires (GHQ28, BDI, STAI, LAS's, MEPS) and were given a chart upon which they were asked to record the amount of time spent doing their homework exercises during the period of the groups and another sheet asking them to record any visits they made to see their doctor. This was then followed by the first part of the relaxation training package, and for the experimental group an introduction to the problem solving and decision making package. Work with the spouses of the patients was not included in this study.

3.3.2 Experimental groups

Experimental groups received relaxation training in the second half of sessions 1, 2 and 5 and were taught generic problem solving techniques following a programme developed by Duckworth (1983). The programme was simplified a little by using monosyllabic words whenever possible to make it easier for the general public to understand. The patients received five sessions of PS/DM training which were planned to last one hour each after the first session which lasted for two hours. Patients were given handouts of what was covered during each session to take home with them so that they could read them at leisure and refer to them in the future (see appendix iv).

The patient's GP was asked to record the number of visits (see appendix iii) made to see the GP during the course of the study and to indicate whether or not in the GP's opinion there was a psychological component to the visit. The recording sheet was attached to the patient's casenotes. The G.P.s were also asked to complete linear analogue scales indicating how the GP assessed the

patient's degree of anxiety, depression, anger, and coping before the intervention and again at follow-up.

Patients were asked to complete the coping checklist (Folkman and Lazarus, 1980) at follow-up and to rate how they had coped with the most difficult things they had to deal with since the end of the intervention.

3.3.3 Control group

The control group were taught progressive muscular relaxation exercises over five sessions. The first session lasted two hours and the subsequent sessions lasted one hour each. The patients were encouraged to practise the relaxation exercises and they were given a relaxation tape to use after the third session.

The patients were taught the first few relaxation exercises at the first session and were asked to practise them at home during the week. Practice sessions should take place daily, and one session should be carried out when the patient was lying down in a quiet, preferably dark, place (e.g. in bed before going to sleep) and one session should take place during the day when the patient would have to go on to do other things afterwards. This was to prevent the patients learning only to associate relaxing with sleeping.

At the second session the exercises were repeated in order to remind the patients of them and any difficulties in doing the exercises were discussed. Ways of keeping the patients' thoughts on relaxing subjects were described – such as visualising a relaxing scene, or

thinking back to an occasion when they were content and relaxed, and the patients were encouraged to concentrate upon the images and memories of that day. Ways of helping the patient to find time to practise the relaxation exercises were considered.

For the subsequent sessions patients were taught a few more relaxation exercises and encouraged to use them as a coping skill, i.e. to use them in advance of difficult situations in order to calm themselves down so that they could then think about how to deal with the problem situation. Also, in the later sessions patients were encouraged to talk about the situations in which they became anxious and/or depressed and to discuss with each other what they could do about it. The aim here was for the patients to get to know each other a little, and show them that many people have similar problems and that there are a variety of ways of dealing with them.

This group completed the questionnaires and rating scales at the same times as the experimental group.

3.3.4 Follow-up of groups

Five months after the end of the fifth group session, those who attended groups were sent a letter inviting them to attend the six-month follow-up sessions. The times of the groups were arranged to be the same as for their original groups so that group members could meet again. However, details of all the times when the experimenter was available were supplied so that the patient could select a time convenient to herself. The patients were asked how things had been for them over the past six months and were asked to

comment on the groups they had attended and the use they had made of what they had learned. They were also asked to complete the GHQ28, MEPS, BDI, STAI, LAS's and the Coping Checklist. Finally they were thanked for their participation in the study. The patient's GP was asked to complete the LAS's to show how s/he thought the patient was at the time of the 6 month followup.

3.3.5 Non-attenders

Non-attenders were telephoned and/or visited in order to ask them to complete GHQ questionnaires at times equivalent to the start and end of the groups and at six months follow-up.

All groups including the follow-up groups were tape recorded so that spot checks could be carried out to ensure that all groups were receiving the same amount of teaching and therapist contact in the equivalent sessions, and that the correct intervention was being adhered to. It also enabled the therapist to ask for help from clinical colleagues should a difficulty in running the groups arise.

4 DEPENDENT VARIABLES

4.1 General Health Questionnaire (GHQ28)

The GHQ (Goldberg and Hillier, 1979) was designed as a self-administered screening test to detect psychiatric disorders in community settings such as primary care. Although the items of the GHQ focused on anxiety and depression, it has been found to detect functional psychoses, probably because patients with functional

psychoses tend also to be troubled by symptoms of depression and anxiety. No theoretical assumptions are made about the nature of the hierarchy of psychiatric disorders within the class of psychiatric illness. However, the questionnaire score can be used to provide an assessment of the patient's position along a continuum of normality to definite illness. The score can be used as a probability estimate of that individual being a psychiatric case.

The GHQ28 is made up of four sections (somatic symptoms, anxiety and insomnia, social dysfunction and severe depression), each consisting of seven items. The GHQ28 can be scored in two ways. One way is to score each item on a four-point Likert scale, where the score for each item would be from 0-3. The scores are summed to give section scores and a total score (total addition score) for the questionnaire. The second way of scoring the questionnaire is to use the scale as a bimodal response scale, where only pathological deviations from normal indicate the possession of the item. Each item scores either 0 or 1, and scores for each subsection, and a total (binary) score can be obtained. The cut-off point for identifying a case is between 4 and 5 using this method of scoring.

The questionnaire was developed by asking questions about adjustment and distress of a non-hospitalised population. The factor analysis yielded four factors: felt psychological disturbance; unhappiness; social inadequacy; and lack of identity. Items which loaded upon these factors and which focussed on the changing aspects of psychological functioning were then selected. Three calibration groups were used: "normals"; "mildly ill"; and "severely ill" psychiatric patients and a principal components analysis carried out on the items

that discriminated well between the three groups. Five factors were identified: a general factor of severity of illness; psychic depression vs somatic depression; agitation vs apathy; and personal neglect vs irritability. It was decided to try and reduce the questionnaire from 93 items so the 21 items that most heavily loaded on the general factor were retained plus 36 items that loaded most heavily on the other four factors, also three items that indicated psychological health were incorporated, to make a shortened 60-item version of the questionnaire.

Goldberg and Hillier (1979) further refined the 60 item GHQ to form a 28 item GHQ. Five hundred and twenty-three questionnaires were completed by patients from a general practice setting. The 60 items were scored using the Likert scoring (0-1-2-3) (or simple addition scoring), and a principal axes analysis carried out. From this ultimately four factors were obtained: somatic symptoms; anxiety and insomnia; social dysfunction; and severe depression. The validity of the scales was tested by using information from 200 completed GHQ questionnaires and comparing the results of items from the Clinical Interview Schedule (CIS) (Goldberg et al., 1976). The correlations obtained between the CIS and the GHQ scales ranged from 0.70 to 0.73 and were thought to be acceptable. No reliability data were presented for the GHQ28 questionnaire (Goldberg, 1978).

As noted earlier, the GHQ28 was thought to be an appropriate questionnaire to use in the current study as it was developed using a general practice population and it provided anxiety and depression scores in addition to an overall severity score. The questionnaire also provides one way of defining "a case". This was important in the

present study where the aim was to teach coping skills in order to help people cope better and prevent them becoming ill and requiring professional help within the next few months.

4.2 Means Ends Problem Solving (MEPS)

Problem solving skills were assessed by using Means Ends Problem Solving vignettes. This method of trying to assess real life problem solving skills was developed by Platt and Spivack (1975). The subject is presented with the beginning, and the end of a story and is asked to fill in the steps that the subject in the story could take in order to move from the situation at the start of the story to the situation at the end of the story. The answers were scored for the number of "means" or discrete steps identified which would enable the subject in the story to reach the goal and for the number of possible obstacles to reaching the goal, and enumerations of means, i.e. details of the means supplied. For example the subject would score one mean if they said "join a club in order to make friends" but would score two enumerations of means if they said "join a karate club, and a flower arranging club, to meet people". The subjects' answers can be tape recorded, written down verbatim, or the subject can write down their own responses.

Ten stories were supplied by Platt and Spivack in their MEPS manual. The experimenter thought some of the stories were unsuitable for use in a study which aimed to assess improvement in coping skills and adjustment. Such stories were about successfully stealing a diamond, getting revenge, and getting even. The experimenter decided to exclude such stories and made up a few vignettes herself. A total of

11 stories were given to eight different types of staff working within a psychiatric hospital. These members of staff were asked to write down their answers to the stories. The experimenter then selected four of the stories (three from the MEPS manual and one of her own - story 4) for use in the study. The stories selected were those that provided a wide range of results, but were ones for which most people could think of at least one means (see appendix iii for specific stories selected).

In the pilot study the experimenter recorded the subjects' answers verbatim, and the subjects had no difficulty with this. However, in the main study subjects were asked to write down their answers and many found this difficult. For those who could not read or write well, the experimenter read out the story to the patient and wrote down their answers verbatim.

The questionnaires were scored for means, elaborations of means, and obstacles, but when the results were examined it was the number of means scored that proved most informative. For further details of MEPS scoring, see below.

Construct validity of the MEPS was assessed by looking at groups of people who were likely to be deficient in real life problem solving and assessing if these people scored poorly on the MEPS compared with controls. Short-term psychiatric patients and hospital employees were compared, the psychiatric patients were found to produce significantly fewer means and elaborations of means than the controls (Platt and Spivack, 1972).

The relationship between MEPS scores and premorbid social competence was examined in acutely ill psychiatric patients. It was argued that if a person was able to solve interpersonal problems this would reflect the fact that the person had a higher level of social competence prior to his illness. The results showed that those who had a higher number of means tended to have higher social competence scores (Platt and Spivack, 1972). A further study compared incarcerated heroin addicts and non-addicts. It was hypothesised that the addicts would be poorer at solving real life problems, especially interpersonal problems. The results of the MEPS confirmed the hypothesis (Platt, Scura and Hannon, 1973). The MEPS do therefore appear to discriminate between groups of people who would be expected to differ in their problem solving ability.

Test-retest reliability was assessed by administering the MEPS stories to institutionalised female delinquent adolescents, college males and institutionalised delinquent males and then retesting them after intervals of two and a half weeks, five weeks and eight months respectively. The significance level of the reliability coefficient varied from $p < 0.05$ and $p < 0.005$, which was considered acceptable.

Scores obtained on the MEPS were found to correlate from a mild to a moderate degree with assessment of I.Q. (Scholastic Aptitude Test, Quick Test of Intelligence, California Test of Mental Maturity, and Otis-Lennon Test of Intelligence). This lack of a high degree of correlation showed that the MEPS test was not just another I.Q. test. In this study, a repeated measures design was used, thus patients were their own controls when assessing changes in PS/DM ability, also patients were randomly allocated to the control and experimental

groups and this should have balanced out the effect of I.Q. for the control and experimental groups.

4.2.1 Means Ends Problem Solving Stories Rescored

The MEPS stories were first scored according to the method outlined in the manual by Platt and Spivack (1975). However, during the course of marking the stories the experimenter decided it might be more informative to re-rate the stories and only score as means those actions carried out by the subject of the story. For example, in story 1, if the neighbours came to introduce themselves to Mary, this was not scored as a means. However if Mary made an effort to introduce herself, then it was scored as a means. It was thought that if the subject of the story initiated the action, then this method of sorting out the problem would be more likely to work as sorting out the problem was not being left to chance and did not depend so much upon how other people might behave.

During the course of rescoring the MEPS according to the above criteria, it came to the experimenter's notice that Marx (1985, personal communication) had scored MEPS stories for the number of means and then rated the effectiveness of these means on a 7 point Likert scale. She had found that people answered the stories in a qualitatively different manner according to whether they had anxiety or depression. So the MEPS stories were scored by an independent rater and by the experimenter, where a means was scored if the person in the story initiated the action, or responded appropriately when told what the problem was. The effectiveness of the means was scored on a 7 point Likert scale where 1 = completely ineffective and 7 = 100%

effective.

Scoring B = means were only scored if the subject of the story initiated the action and the effectiveness of those means were rated. Blind ratings were completed by the experimenter.

Scoring A = means and effectiveness scores rated blind by an independent rater. Means only scored if the subject of the story initiated the action or responded positively once they had been told what the problem was, or if they acted upon a suggestion made to them.

Scoring C = as for A above, but the ratings were completed blind by the experimenter.

When Pearson product moment correlations were carried out using all four methods of scoring means (including the manual method of scoring (MEPM)), the lowest correlation was .62 and the highest .99. All correlations were significant at the $p < 0.001$ level.

Table 1: Correlations between the 4 methods of scoring means on MEPS stories

	A + B	A + C	B + C	MEPM + A	MEPM + B	MEPM + C
lowest correlation	.63	.68	.74	.85	.62	.69
highest correlation	.88	.83	.91	.99	.88	.84

When effectiveness scores were examined using Pearson product moment correlations, the results were more variable (see table 2) and the level of significance varied from $p = 0.017$ to $p = 0.001$.

Table 2: Correlations between effectiveness scores

	A + B	B + C	A + C
lowest correlation	.26	.53	.34
highest correlation	.67	.86	.68

Therefore there was a higher correlation between means scores than the more subjective "effectiveness" scores. The interrater reliability on the means scores ranged from .68 to .83, whereas the effectiveness scores ranged from .34 to .68 which was less reliable. An examination of the means scores was therefore considered a more reliable method of assessing problem solving skills than the effectiveness scores.

Summed scores

A summed score was calculated where all the means scores of all four stories were added together for time 1. The procedure was repeated for times 2 and 3, and was repeated for effectiveness scores. Comparisons could then be made based upon total means scores (calculated according to the manual, or methods A, B or C) and total effectiveness scores (calculated according to methods A, B or C). The summed scores are reported in the body of the text, and the details of the individual scores are reported in the appendix.

4.3 Beck Depression Inventory (BDI)

The Beck Depression Inventory (Beck et al. 1961) was designed as a self-rating scale of depression and it has been found to be a reliable method of assessing depression in British patients (Metcalfe and Goldman 1965).

The reliability of the inventory was measured in two ways:

- (1) item analysis of 606 cases showed that the items correlated positively with the total depression inventory score, and the range was from .31 to .68.
- (2) internal consistency was assessed using split-half reliability. A reliability coefficient of .86 was found between odd and even items.

The BDI was found to reflect small changes in depth of depression. These changes were smaller than the changes needed for the clinician to change the patient's depth of depression rating from one category to another (e.g. from moderate to mild depression). The BDI was also able to discriminate between anxiety and depression which other measures were not (e.g. the MMPI, D-Scale, MAACL, Multiple Affect Adjective Checklist).

People who are depressed feel they are unable to cope and people who are unable to cope may get depressed, so an assessment of the usefulness of teaching coping skills should include a measure of depression.

4.4 State Trait Anxiety Inventory (STAI) (Spielberger et al., 1970)

The STAI is a self-report scale measuring state and trait anxiety. State anxiety is a transitory emotional state which is perceived by the patient as tension and apprehension and is accompanied by increasing autonomic activity. Trait anxiety is the term given to the relatively stable individual differences in anxiety proneness. In this study only the State Anxiety Scale was used.

The State Anxiety Scale consists of 20 items which are concerned with how the person feels at the time of completing the questionnaire. Subjects rate each item on a 4-point scale, and the items are a mixture of direct scored and reverse scored items. This mixture is used to reduce the likelihood of eliciting a response set from the subject. The State Scale can be used with a short interval between administrations and has been found to be sensitive to small changes in levels of anxiety. The construct validity of the State Scale was assessed by asking students to complete the scale before and after a period of relaxation training, then after working on a difficult I.Q. test, and again after watching a stressful film. Mean scores were lowest for the relaxation condition and were highest for the stressful film condition. The construct validity therefore appeared to be satisfactory.

People who are not coping well tend to be anxious and feel threatened by something. If the person feels they can cope with the perceived threat, they will no longer be so anxious. It is therefore important to assess the patient's subjective rating of anxiety when trying to assess the effectiveness of a package that aims to teach the

patient how to identify and sort out problems and teach them how to reduce the somatic symptoms of anxiety.

4.5 Delusions, Symptoms, States Inventory/State of Anxiety and Depression (DSSI/SAD Scale)

The DSSI/SAD Scale was developed as a screening instrument to detect the personally disturbed in the community and for use in treatment evaluation (Bedford and Foulds, 1978). It is a self-rating scale which enquires about recent psychiatric state. The scale was developed from the Delusions, Symptoms States Inventory (DSSI) (Bedford and Foulds, 1978) which is based on the hierarchical model of mental illness. The model proposes that there are four classes of illness, the first being dysthymic states; the second – neurotic symptoms; the third – integrated delusions; the fourth – delusions of disintegration. It was assumed that most patients who can be categorised in class 4 will also be members of classes 1-3, and most patients categorised in class 2 will be members of class 1, i.e. membership of a higher category subsumes membership of a lower category.

The DSSI/SAD scale is made up of seven anxiety and seven depression items. Each item is scored 0, 1, 2 or 3, usually according to the amount of distress the patient complains of (none, a little, a lot, or unbearable). The scores range from 0-21 for the anxiety and for the depression scales, and from 0-42 for anxiety and depression scales taken together.

The content^{of} scale items were validated by asking eight experienced

psychologists and 15 consultant psychiatrists to judge the 84 DSSI items. The raters had to put each item into what they considered to be the most appropriate non-organic category using their own system of classification. The raters were then asked to put the 84 items into the 12 DSSI categories or an "other" category.

Using the first method of categorising items, 76% of the anxiety items were categorised as "anxiety state" or "anxiety neurosis", and 12% were categorised as "depression" syndromes. When a second method of categorising methods was used, 83% of the items were categorised as anxiety items, and 12% as depression items. For the depression items, 98% of the items were classified as depression items using the first method of rating and 100% of the items were classed as depression items when the second method of categorisation was used. When the anxiety and depression items were put together and the raters were asked to give a forced choice reply, 98% of the decisions fell into the anxiety or depression categories.

For the DSSI/SAD scale, scores of 0-2 are considered "non-personally disturbed"; scores of 3-5 are "personally disturbed"; and scores of 7 and above are "personally ill". Personal illness subsumes personal disturbance.

The questionnaire was used before at the same health centre and with subjects from the same population as used in this study (Ingham and Miller 1979) and was found to be useful for discriminating between those who were distressed but who were coping and those who were ill. It was thought that those who were distressed and who had poor social supports would be at risk of becoming ill. The DSSI/SAD scale

could therefore be used to select people who were vulnerable (personally disturbed) but not yet ill, and they could be taught coping skills to determine if it were possible to prevent them becoming ill. It would be best to test a preventative intervention/coping skills package on a vulnerable group of people where several members of the group could be expected to become ill over the period of the study. In a general population group, the number of people who might become ill is likely to be very small and so it would be difficult to determine if the intervention is effective in preventing illness. Also, those who are not at all troubled are unlikely to want to make the effort to attend groups. So for the purposes of this study as it was first conceived, the DSSI/SAD scale appeared to be a useful tool for selecting a group of vulnerable people who were to be taught coping skills in order to prevent them becoming ill and requiring professional help within the next few months, and it could be used to assess the patient's progress during the course of the study. The problem with the DSSI/SAD scale is that the hierarchical model for psychiatric illness does not hold for all patients. Surtees and Kendell (1979) found that two-thirds of patients with psychotic symptoms did not have neurotic symptoms of lower down the hierarchy. However, it was hoped that patients with a psychotic illness would be excluded from the study so that this would not be a major problem for this study and the hierarchical model did appear to hold up better for neurotic illness.

4.6 Linear Analogue Scales (LAS's)

Two sets of linear analogue scales were designed for use in the study, one to be completed by the patients and one to be completed by each patient's GP. The scales used a 10 cm line format and the rater

was required to place an "X" along the line at the point which showed how the rater felt in response to a particular question. Linear analogue scales have been found to be a reliable and valid method of assessing mood and mood change in depressed patients (Zealley and Aitken, 1969). LAS's allow more changes in rating to be recorded and so are a suitable method of rating to use when repeated assessments are required.

4.6.1 Patient LAS's

LAS scales are used to measure anxiety and depression, anger, coping and expectations of the group. The anxiety and depression scales were used as it was thought they might be better than the GHQ28, BDI, and STAI at reflecting very small changes in rating of anxiety and depression, particularly in patients who are only slightly troubled, and who might not score at all on the other questionnaires. It was thought to be important to measure the patients' expectations of the group in order to determine if the patients' expectations influenced how much benefit the patient gained from the groups. Anger was included as it is a "negative" emotion which may indicate that the patient is not coping very well with a particular aspect of her life.

4.6.2 Doctors' LAS's

The patient's GP was asked to rate the patient's anxiety, depression, anger and coping at the start of the study and at followup in order to obtain a more objective rating of the patient. The doctors were unable to complete the questionnaires at the end of the groups as they were unlikely to have seen most patients again since the first

ratings were carried out at the start of the groups. Problems encountered that made it very difficult for these questionnaires to be completed reliably were that some patients had not been seen by the GP for a second time by the time of the six-month follow-up, so that the GP did not know how the patient was. Because the G.P.s were busy, they could not always remember even on the second time of seeing the patient who the patient was or how they were if they did not know them well, or have a particular reason for remembering the patient. Further difficulties were caused by the patients having to be rated by a different GP on the second occasion because the first GP had left the practice or the patient had been seen by a different doctor since the first appointment. It was important to use the same rater each time as the manner in which the ratings were completed differed markedly between individuals, some doctors tended to check the extremes and others avoided extreme ratings.

4.7 Ways of Coping Checklist (Folkman and Lazarus, 1980)

The Ways of Coping Checklist was devised by Folkman and Lazarus (1980). Their aims were to determine if people were consistent in the way they coped with a variety of stressful encounters in their daily lives or if coping patterns were more situation-specific. In their study of 1,332 stressful episodes they found that people were more variable than consistent in their coping patterns. The checklist is made up of 68 items describing a wide variety of behaviour and cognitive coping strategies. The items are classified into two categories: problem focussed and emotion focussed items. The problem focussed category includes items that describe cognitive problem solving efforts and behavioural strategies for altering or managing the source of the

problem. The emotion focussed items are ones that describe cognitive or behavioural efforts aimed at reducing or managing emotional distress.

Twenty-seven of the items were classified as problem focussed and 41 items were classified as emotion focussed by 10 raters. There was 91% agreement about which category an item belonged to among the raters. The aim in this study was to determine if patients in the experimental group used more problem focussed coping than the control group by the time of the six-month follow-up. Patients at follow-up were asked to recall a stressful event that had occurred to them over the last few weeks, then to write down what the event was at the top of the checklist, then indicate if they had used the strategies listed and to what extent.

It was thought that the Ways of Coping Checklist, although best used as a process measure, could be used once at the end of the study to determine if the number of problem solving coping behaviours was greater, and people were more aware of the options open to them, in the experimental than the control group. It was decided not to use the Checklist on successive occasions because the patients already had several questionnaires to complete which were thought to be more than enough. However it might be that the type of events described as stressful may have changed for the experimental group as a result of the problem solving training. If they thought they could do something about a situation or were less threatened by it they might experience many situations as less stressful and so have fewer stressful events to select from when completing the Coping Checklist.

The experimenter found it very difficult to persuade patients to complete this questionnaire and to answer every item. As it was to be completed at the time of the six-month follow-up by those who attended groups, there were only a few suitable patients to complete the questionnaire and few of those completed the questionnaire satisfactorily. The stressful events identified by the patients varied greatly in severity (from locking themselves out of their house to suffering more than one bereavement). It was not possible to identify one common experience to assess all patients on and as the method of coping adopted was likely to depend to a large extent on the nature of the stressful event encountered, the results obtained using this questionnaire were not analysed.

4.8 Record of the number of visits to a doctor

Many patients who are anxious and/or depressed visit their GP frequently with physical symptoms, if they found the groups helpful these visits might be expected to decrease. Visits for psychological symptoms would also be expected to decrease.

4.8.1 Patients' Record

Patients were asked to record the number of visits they made to their GP over the period of the study. They were asked to record the date and tick one or two columns to indicate if the visit to the GP was purely about a physical problem in the patient's opinion and/or if the visit had something to do with the way the patient felt at the time.

On the whole patients could complete this form without difficulty. The problems that did arise were how to record hospital visits and admissions, and sometimes patients who did not record the visit immediately forgot the date of the visit so it was unclear if the visit had taken place during the period of the groups or the follow-up period. Hospital visits were ultimately included in the number of visits to the GP and each admission counted as one visit.

4.8.2 G.P.s' Record

G.P.s were asked to keep a record of the number of visits a patient made to see them. They were asked to record the date, and to place a tick in the column to indicate if the visit was about a purely physical matter and/or if the visit had a psychological component to it. The record sheet was placed in the patient's medical notes for the period of the study. This record was found to be very unreliable as some visits outside the period of the study were recorded, and many relevant visits were not recorded. It was found to be more reliable to examine the patients' records of the number of visits and for the experimenter to look through the medical notes and to record the dates of the entries made in the casenotes and determine from what was written if the visit was about a medical problem or if it had a psychological component to it. This method of recording visits obviously depended upon what the GP chose to write down in the notes and could only be used for casenotes which the experimenter had permission to examine.

4.9 Medical records

In addition to information concerning the number of visits made to see a doctor during the period of the study, where possible the medical records were examined for evidence of past psychiatric history or referral to a psychiatric agency. In one health centre it was not possible to examine the records of patients who had not had the chance to give written permission for the experimenter to examine their records. Written permission was requested when patients attended their first group meeting. If they did not attend groups their permission was not ~~be~~ obtained. Permission was not requested at an earlier stage as it was anticipated that it might deter patients from attending groups. In the second health centre the experimenter was able to examine the medical records of those who attended groups. Not all the past records were available for examination, some of the patients were new to the practice and the old casenotes had not been forwarded to their new GP.

4.10 Tape recordings of group sessions

Each group meeting was tape recorded to enable checklists to be made that the experimenter had adhered to the experimental or control conditions, and the length of each session was recorded. The tape recordings also made it possible for the experimenter to consult colleagues for advice if a problem was encountered in running the groups. This in fact was never necessary. Had very significant differences been found between the experimental and control groups, it might have proved informative to analyse the tape recordings further, to compare factors such as the amount of time the experimenter spent talking with each group. As it was, an independent rater did examine four tape recordings selected at random. He checked

that the experimenter had adhered to the correct procedure for each of the groups. Once this had been found to be satisfactory, further analyses of the tapes were not considered necessary.

4.11 Homework record

Patients were asked to record the amount of time they spent doing homework – either practising the relaxation exercises and/or working on the PS/DM approach. Patients were asked to record the date and amount of time spent in minutes. The experimenter calculated the total amount of time spent during the study doing homework. The aim of the record was to encourage patients to put what they had learned in the groups into practice in their own lives and to do this whilst help was available to iron out any problems that they might have with it. Also it would enable the experimenter to determine if the amount of time spent practising the skills taught was associated with a better outcome.

Many patients did as requested and kept a daily record, others, when asked by the experimenter for the completed record, estimated how much time they had spent. In some cases patients stated that they had done very little or no homework but in other cases the experimenter suspected that the patient was overestimating the amount of time spent in order not to hurt the experimenter's feelings. However, others have found a strong correlation between microprocessor monitored and self reported rates of relaxation practice (Taylor et al., 1983).

5. Subjects

5.1 Numbers of patients screened

A total of 812 patients from both health centres were screened whilst attending an appointment with their GP. The results of the screening procedure for each health centre are detailed in table 3.

A total of 34.36% of the 812 patients screened (i.e. 279 patients) were found to be suitable and were invited to attend the groups. A further patient was included in the groups at her GP's request, as she had heard about the proposed groups from her daughter who had been screened and invited to attend the experimental group sessions. The patient asked her GP if it would be possible to attend, when she saw her GP a day after the screening procedure had been completed. The patient was invited to attend, and was allocated to a different experimental group to that of her daughter. The patient was allocated to the experimental group to reduce the risk of contamination between herself and her daughter. When the results obtained from this patient at the start of the groups were examined, they appeared to be in the middle range of the results obtained from her group, so her results were included in the study.

The experimenter was not permitted to look at the casenotes of the patients herself at the first health centre, unless the patients gave their written consent and only patients who attended groups had the opportunity to sign a consent form. In order to keep the procedure the same in both health centres, the G.P.s were asked to exclude unsuitable

patients, however in the first health centre this task was actually performed by the health centre administrator.

More patients were excluded from being invited to the groups from health centre 1 as the health centre administrator examined each patient's medical records in order to exclude patients with a past history of anxiety or depression, or referral to a psychiatric agency. In the second health centre, the G.P.s examined the list of names of patients screened by the experimenter and excluded patients with a past psychiatric history. The latter method was less reliable as the G.P.s relied largely upon what they remembered of the patients rather than going through every set of casenotes.

(At the end of the study when the experimenter was permitted to examine the casenotes of patients who had attended the groups, three out of 39 patients from health centre 1 were found to have had a past psychiatric history and 19 out of 49 patients from health centre 2.)

The patients' casenotes were not all available for the administrator to examine at the start of the study (for example because the patient had been recently placed on the GP's list) and if the patient was not known to have a past psychiatric history she was included in the study.

In the second health centre sometimes G.P.s did not check the casenotes of patients as they thought they knew them well and so may have omitted to exclude some patients with a past psychiatric history.

As fewer patients were excluded by the G.P.s at the second health

centre, a higher percentage of patients who had been screened were invited to groups.

A number of patients stated that they did have anxiety and/or depression but did not wish to attend groups. The reasons most commonly given were that the patient would shortly be moving out of the area or that the problem was time limited and the patient anticipated that the cause of the anxiety/depression would soon be removed.

5.2 Table 3: "Classification by health centre of the categories of patients obtained from the screening procedure".

	<u>Carmondean</u>		<u>Craigshill</u>	
Total number of patients screened:	436		376	
Number of patients with anxiety and depression invited to groups:	131	30.0%	148(+1)	39.4%
Number of patients excluded by GP's or administrator as being unsuitable:	35	8.0%	9	2.4%
Number of patients with no anxiety or depression at screening:	136	31.2%	150	39.9%

Number of patients with anxiety and/or depression not interested in attending a group:	77	17.7%	51	13.6%
Number of patients screened and found to be unsuitable for inclusion in the study (eg. being treated for depression or moving out of the area):	30	6.9%	18	8.0%
Number of patients with severe medical problems that might have affected anxiety/depression, not invited to groups:	4	0.9%	0	0
Number of patients screened by questionnaire handed out by receptionists for one day – unsatisfactory as questionnaires completed unsatisfactorily:	19	4.4%	0	0
Number of patients who would not complete the questionnaire at screening:	4	0.9%	0	0

Number of patients who avoided

or refused to be screened:

unknown

unknown

5.3 Compliance

Allocation of patients to groups

Table 4: Patient attendance by health centre and intervention group

	Health Centre 1		Health Centre 2	
	Experimental group	Control group	Experimental group	Control group
Number of patients invited to groups:	67 (100%)	64 (100%)	75 (100%)	74 (100%)
Number of patients who attended one or more groups:	18 (26.9%)	23 (35.9%)	24 (32%)	26 (35.1%)
Number of patients who did not attend groups:	49 (73.1%)	41 (64.1%)	51 (68%)	48 (64.9%)

Upon completion of the screening procedure and after it was thought that patients with a past psychiatric history had been excluded, the screening forms were divided into two groups. One group comprised patients who had visited their GP less than a month ago, and a second group of patients who had not visited their GP for more than a month. As

far as possible, equal numbers of patients from these two groups were placed in the control and the experimental groups. By doing this it was hoped to control for severity of problem in the two groups.

The screening forms were divided into times when the patient could attend groups. Great efforts were made to place equal numbers of patients from the control and experimental conditions into groups taking place in the morning, afternoon and evening.

5.3.1 Health centre 1: allocation of patients to groups

Patients from the first health centre were given the opportunity to attend groups either at the health centre, a community centre, or a community school. In this way it was hoped that a large number of patients would find it convenient to attend and any stigma of attending groups at the health centre would be reduced. In practice little difference in attendance rates were found for the different venues.

Groups were planned to take place on week days. There were seven control and seven experimental groups, one experimental and one control group were arranged to take place in a morning, an afternoon and an evening and the 7th group was arranged for a time when the majority of remaining patients could attend. Each group consisted of 9-10 patients.

5.3.2 Health centre 1: response to invitation letter

Once patients had been allocated to groups, patients were written to and invited to attend groups. A stamped addressed envelope was

enclosed for replies. Thirty-six out of 131 patients replied before the groups started that they would attend, and 14 replied that they would not attend. A small number of replies were returned after the start of the groups. For details of the total number of replies received and a comparison of the two health centres, see table 5.

Table 5: Response to letter inviting patients to attend groups.
A comparison of the two health centre populations

H.C.	Replied: Yes would attend	Replied: No would not attend	No reply	
H.C.1	36 27.48%	14 10.69%	81 61.83%	131
H.C.2	30 20.1%	15 10.1%	104 69.8%	149

5.3.3 Health centre 1: group attendance and number of contacts made to arrange groups

During the first week, 19 patients attended the meetings. The experimenter then tried to amalgamate groups so that five people attended each group. However some patients could not change times, so it was not possible to ensure that the groups were of equal size.

The experimenter then visited at home as many non-attenders as

possible in order to encourage more people to attend and to arrange a new starting date for a set of groups commencing the following week. General Health Questionnaires were collected from those who no longer wished to attend.

Patients were contacted by means of a home visit, had times of groups delivered to them followed by a home visit if they were not in at the time of the delivery, were telephoned, or received information through the post. A few letters were returned to the sender by the G.P.O. as the patients had moved house. A table of the types of contacts made in order to rearrange groups and a comparison of the two health centres is given in table 6. It should be noted that this is not the total number of contacts made as most patients were visited several times before being found to be at home, and it was only after efforts had been made to contact each individual personally that the experimenter resorted to contacting the patient by telephone or by letter as time became short.

Table 6: Types of contacts made to rearrange groups: a comparison of the two health centre populations

Headings:

- a. Said will come to group at home visit
- b. Said will not come to group at home visit
- c. Left message at home visit
- d. Telephoned, said will come to groups
- e. Telephoned, said will not come to groups
- f. Telephoned and left message
- g. Couldn't contact
- h. Already attended first group

	a.	b.	c.	d.	e.	f.	g.	h.	Total
H.C.1	20	11	8	20	15	0	28	29	131
	15.3%	8.4%	6.1%	15.3%	11.5%		21.4%	22.1%	
H.C.2	47	11	28	19	7	3	10	24	149
	31.5%	7.4%	18.8%	12.8%	4.7%	2.0%	6.7%	16.1%	

(Any one individual may have been visited or telephoned many times in order to obtain these results)

5.3.4 Health centre 1: numbers attending 0-5 groups

Table 7: Patients from HC1: group attendance

	Control group	Experimental group	Total	% of total
Number of patients				
who did not attend groups:	41	49	90	68.7%
Number of patients				
who attended 1 group:	6	5	11	8.4%
Number of patients				
who attended 2 groups:	1	2	3	2.3%
Number of patients				
who attended 3 groups:	3	1	4	3.1%
Number of patients				
who attended 4 groups:	8	2	10	7.6%
Number of patients				
who attended 5 groups:	5	8	13	9.9%
Total	64	67	131	

Forty-two patients agreed to attend the rearranged groups. Sixteen patients actually attended the rearranged groups the following week. Some patients failed to attend these groups but still further arrangements were made and six more patients attended. Of those who did not attend, a number stated that they felt better now and no longer needed to attend. A total of 41 patients attended one or more groups, four of whom could only attend if they were collected and returned home by car.

When the results for the experimental and control group patients from health centre 1 were compared, the numbers of patients who attended 0, 1 to 5 groups were very similar for both the experimental and control groups (see table 7).

5.3.5 Health centre 1: numbers attending followup groups

Patients who had attended groups regularly were invited to six-month follow-up groups. Thirty-two patients were invited to the follow-up groups, 11 attended. Patients who did not attend were sent GHQ questionnaires or were visited at home.

5.3.6 Health centre 2: allocation of patients to groups

Patients from the second health centre were invited to attend groups held in rooms across the car park from the main health centre building. All the meetings were held in the same place. Meetings were planned to take place on week days. There were four control and four experimental groups. For each type of group there was one morning, one afternoon and two evening groups. Each group comprised 18-19 people as it was anticipated that many patients would not attend the groups.

5.3.7 Health centre 2: response to invitation letter

Forty-five patients replied to the letter inviting them to attend a group. Thirty said they would attend, 15 stated that they no longer wished to attend (see table 5). During the first week 39 patients

attended groups, and a further 10 patients attended rearranged groups starting the following week.

5.3.8 Health centre 2: group attendance and number of contacts made to rearrange groups

During the first week of the groups, an assistant called at the houses of non-attenders, once it was clear that they had missed the start of the first session, and offered patients a lift to the groups as the weather was wintry. If the patient did not wish to attend the group, the assistant asked the patient to complete a GHQ questionnaire. For details of the types of contacts made to rearrange groups, see table 6.

5.3.9 Health centre 2: numbers attending 0-5 groups

Table 8: Patients from Health Centre 2: group attendance

	Control group	Experimental group	Total	% of total
Number of patients				
who did not attend groups:	48	51	99	66.4%
Number of patients				
who attended 1 group:	8	4	12	8.1%
Number of patients				
who attended 2 groups:	1	2	3	2.0%
Number of patients				
who attended 3 groups:	4	4	8	5.4%
Number of patients				
who attended 4 groups:	10	8	18	12.1%
Number of patients				
who attended 5 groups:	3	6	9	6.0%
Total	74	75	149	

At this health centre only one patient required a lift to the groups on a regular basis.

It should be noted that whenever a patient did not attend a group session, having attended the previous session, the patient was telephoned or visited to find out the reason for non-attendance and to try and arrange a catchup session, and the patient was encouraged to attend the next session.

5.3.10 Health centre 2: numbers attending followup groups

Thirty-seven patients had attended the groups regularly and were invited to the six-month follow-up groups which were held at the same time and place as the original groups. Only six patients attended the followup sessions despite having been given all the alternative times and venues when the experimenter would be available. The non-attenders were visited at home, and they were asked to complete the questionnaires whilst the experimenter waited, if this was not possible the patient was asked to return the questionnaires to the health centre, or to the experimenter by post.

5.4 Compliance

It was thought important to try and assess compliance in this study as if compliance was poor this would call in to question the value and cost effectiveness of doing preventative intervention work in the future.

5.4.1 GHQ questionnaires returned at the start of the groups

Table 9: GHQ questionnaires returned at the start of the groups

	GHQ collected in group	Collected at home visit experimenter present	Completed at home, returned by post	Completed at home, brought to group	Total obtained	Total not obtained	Total
HC1	28	37	0 (+1 unnamed so not coded or used again)	1	67 (67 usable)	64	131
	21.37%	28.24%	0.76%	0.76%	51.13%	48.85%	100%
HC2	42	20	40	3	105 (102 usable)	44	149
	28.19%	13.42%	26.85%	2.01%	70.47%	29.53%	100%
Total	70	57	41	4	172 (169 usable)	108	280

A total of 172 (61.4%) of GHQ questionnaires were collected at the start of the study out of a possible 280. It was not possible to collect 108 (38.6%) of the questionnaires despite using a variety of methods to encourage the patients to return the questionnaires themselves or to collect the questionnaires, and despite having some assistance to collect the questionnaires from patients registered at the second health

centre.

The experimenter had limited time available to pursue those who had not returned their questionnaires as she was already running groups morning, afternoon and evening most days of the week. If questionnaires were not returned or collected within two and a half weeks of the start of the groups, they were not pursued further, as it would not be possible to control for factors such as the effects of world events upon patients' feelings of anxiety and/or depression. Efforts were made to contact each patient at least twice. If the patient could not be contacted personally messages were left with a member of their family or a note asking them to return the questionnaire was put through their door.

5.4.2 GHQ questionnaires returned at the end of the groups

Table 10: GHQ questionnaires returned at the end of the groups

	GHQ returned by post	collected	returned after a home visit	returned during group	refused to complete GHQ	total obtained or con- tacted	not obtained	total
HC1	0	31	0	27	1	59	72	131
		23.7%		20.6%	0.8%	45%	55%	
HC2	31	33	3	32	7	106	43	149
	20.8%	22.1%	2.0%	21.5%	4.7%	71.1%	28.9%	

A total of 165 (58.9%) GHQ questionnaires were collected at the end of the groups, 156 of which were usable.

5.4.3 GHQ questionnaires returned at the end of the six-month follow-up

Table 11: GHQ questionnaires returned at the end of the six-month follow-up period

	GHQ returned by post	collected at home visit	returned during follow- up group	returned by post after home visit	total obtained or con- tacted	not obtained	total
HC1	11 8.4%	27 20.6%	11 8.4%	14 10.69%	63 48.1%	68 51.9%	131
HC2	32 21.5%	37 24.8%	6 4.0%	15 10.1%	90 60.4%	59 39.6%	149

At six month follow-up 153 (54.6%) of the GHQ questionnaires were collected.

The amount of time spent screening patients, running the groups and followup sessions, and collecting questionnaires was estimated to be: 148 hours for the pilot study, 581 hours for the main study at health centre one, and 645 hours at the second health centre. The total was 1374 hours.

As those who did not attend groups and those who attended control and experimental groups differed at the start of the study, one way to control for the initial differences between groups would be to use an analysis of variance (treatment x time) with the initial GHQ total binary score as the covariate. However it was felt that the distributions of the populations were very skewed at times two and three and so this was not the analysis of choice in this study. The data could be transformed to improve the normal distribution. This could be done using a log transformation. Nevertheless difference scores were preferred as they provided a more normal distribution, although this required large numbers of individual analyses to be carried out.

A further possible analysis could involve examining "residual gain scores" where the effects of initial differences are partialled out. For those who attended 1, 2, 3, 4 or 5 groups pretreatment scores could be plotted against post treatment scores and a regression line drawn to represent the complete set of data. The line would be drawn so that the vertical distances from individual points to the line (the residuals) would be as small as possible. The residuals could then be rescaled as residual gain scores. This method substitutes for each raw post-treatment score the difference between that score and the score that would have been expected, given the pre-treatment score obtained for that individual and the relationship for the sample as a whole between pre- and post- treatment scores (Shapiro 1989). If those who had more exposure to the PS/DM package did better than those who had less exposure, it would be expected that there would be

greater gains in those who attended more sessions. However the numbers of patients in the control and experimental groups attending specific numbers of sessions were small (see table 17) and those showing greater than expected gains would be even smaller. As the results would not be very reliable this analysis was not carried out.

When multiple analyses are carried out, it is possible that some significant results are chance findings and this should be borne in mind when considering the following results. The likelihood of chance findings decreases where a significance level of .01 or stricter, rather than .05, is used.

A. Effectiveness of the random allocation to control and experimental groups

1. A comparison of combined control and combined experimental groups

Are there any differences at the start of the study that might affect further analyses?

[See appendix vi for an analysis of the two control groups, and the two experimental groups, which was carried out in order to determine if the patients from the two health centre populations could be combined to form one large control group and one large experimental group.]

1.1 Screening results

could be interpreted as more patients in the control group said they did have anxiety, or more of the experimental group had depression alone.

Table 12: Anxiety at the time of screening

	Yes	No	
Control group	123 (89.1%)	15 (10.9%)	138 (100%)
Experimental group	107 (76.4%)	33 (23.6%)	140 (100%)
	230	48	278

chi square = 6.99, df = 1, $p < 0.01$) Min E.F. = 23.83,

When the answers to the questions about anxiety and depression were combined, the results showed that more patients in the experimental group stated that they were depressed, however more patients in the control group stated that they were both anxious and depressed.

Table 13: Anxiety and depression screening questions

	Anxiety	Depression	Both	Total
Control group	31 (22.5%)	15 (10.9%)	92 (66.7%)	138
Experimental group	29 (21.2%)	30 (21.9%)	78 (56.9%)	137
Column total	60 (21.8%)	45 (16.4%)	170 (61.8%)	275

chi square = 6.22, df = 2, $p < 0.05$, Min E.F.= 22.42

contingency coefficient = 0.149

In response to being asked if they suffered from anxiety or depression three people said they were not anxious or depressed but they were troubled. Unlike most people screened these individuals appeared to be using the words anxiety and depression in a clinical sense. So although these individuals were not anxious or depressed they were not excluded from the study as they were troubled, and they were prepared to rate their degree of disturbance in response to subsequent questions.

These differences between the two groups at the start of the study are hard to explain as patients were allocated to the two groups randomly. However the differences were minor.

At the time of screening, the experimenter noted if patients stated a preference for the relaxation, or the problem-solving plus relaxation training group. She also noted if she thought the patient would be suited to one type of group, but the patients were warned that no guarantee could be given as to which group the patient would be invited to attend. When the patients had been randomly allocated to groups the experimenter checked to make sure that such preferences appeared to be spread more or less evenly between the two groups.

In order to assess if the allocation of patients to the control or experimental groups could have been influenced by what the experimenter had written and so caused the difference between the two groups at the start of the study, the experimenter checked through all

the screening questionnaires at the end of the study and noted down the comments the patients made which could have influenced the allocation of the patient to a particular group, and noted down her own such comments and to which group the patient had been allocated.

Ten patients had stated a preference for, or the experimenter had noted, that the patient might be best suited by the PS/DM group. Four of these patients were in fact placed in the control group and six in the experimental group. Another 10 patients had stated a preference for, or the experimenter had commented that the patient might be best suited by the relaxation only group. Six patients were placed in the control group and four in the experimental group. Given the small numbers involved and the fact that the distribution of the comments was almost equal between the two groups, it appears unlikely to have been a major source of bias.

1.2 General Health Questionnaire results

No significant differences were found between the control and experimental groups on the GHQ total or GHQ subsection scores. T-tests were used unless the distributions showed that the use of parametric analyses were inappropriate, then non-parametric analyses were used. Where it was debatable whether non-parametric or parametric analyses would be more appropriate, the results of both analyses are given.

Despite the difference between the control and the experimental groups at the time of screening there was no difference between the groups on GHQ scores at the start of the group interventions. This may

be because a) the scores decreased over the period between the screening procedures and the start of the groups; b) it could be that when a standardized questionnaire was used which was made up of more specific questions about anxiety and depression, there were no differences between the two groups; c) the sample size had decreased and this caused different results to be obtained; (d) non-random drop-out.

1.3 Compliance

Table 14: A comparison of total control and total experimental groups

	Control group	Experimental group
<u>Response to invitation letter</u>		
Yes	31 (22.46%)	32 + 1 (23.24%)
No	7 (5.07%)	18 (12.68%)
Total no. of replies	38 (27.5%)	51 (35.92%)
No reply received	100 (72.5%)	91 (64.08%)
Total	138 (100%)	142 (100%)

Contacts made to rearrange groups

said will come at home visit	31 (22.46%)	36	(25.35%)
said will not come at home visit	6 (4.35%)	16	(11.27%)
left message at home visit	24 (17.39%)	12	(8.45%)
telephoned - said will come to group	23 (16.67%)	16	(11.27%)
telephoned - said will not come to group	10 (7.25%)	12	(8.45%)
couldn't contact	20 (14.49%)	18	(12.68%)
came to first group	24 (17.39%)	29	(20.42%)
telephoned and left message	0 (0%)	3	(2.11%)
Total	138 (100%)	142	(100%)

The overall pattern of results and compliance for the total control and total experimental groups appears to be very similar. The proportions of patients who responded to the invitation letter, the number of contacts made to rearrange groups, and the compliance results for collecting GHQ questionnaires, were very similar for the control and experimental groups (see table 15).

Compliance

Table 15: A comparison of total control and total experimental groups

	Control group	Experimental group
<u>First set of GHQs</u>		
completed at the 1st group meeting:	36 (26.09%)	34 (23.94%)
completed at home visit whilst experimenter present:	28 (20.29%)	29 (20.42%)
returned by post:	11 (7.97%)	30 (21.13%)
brought to re- arranged 1st group:	3 (2.17%)	1 (0.70%)
Total collected:	78 (56.52%)	94 (66.2%)
	(77 usable)	(92 usable)
Questionnaires not returned	60 (43.48%)	48 (33.80%)
Total	138 (100%)	142 (100%)

<u>Second set of GHQs</u> completed at the end of groups	Control Group	Experimental Group
completed at the 5th meeting:	32 (23.19%)	27 (19.01%)
returned by post without further prompting:	13 (9.42%)	18 (12.68%)
collected at home visit:	25 (18.12%)	39 (24.46%)
returned after home visit:	1 (0.72%)	2 (1.41%)
refused but returned GHQ:	4 (2.9%)	4 (2.82%)
total obtained:	75 (54.35%) (71 usable)	90 (63.38%) (85 usable)
total not obtained:	63 (45.65%)	52 (36.62%)
Total:	138 (100%)	142 (100%)

<u>Third set of GHQs completed at 6 month follow-up</u>	Control group	Experimental group
completed at followup group:	7 (5.07%)	10 (7.04%)
returned by post:	14 (10.14%)	29 (20.42%)
collected at home visit:	26 (18.84%)	38 (26.76%)
returned by post following home visit:	19 (13.77%)	10 (7.04%)
total obtained:	66 (47.83%)	87 (61.27%)
total not obtained:	72 (52.17%)	55 (38.73%)
Total:	138 (100%)	142 (100%)

N.B. If no GHQ was obtained at the start of the groups, then no efforts were made to collect GHQs from these patients at the 2nd and 3rd assessments.

Summary

There does appear to be a difference between the control and experimental groups at the start of the study which may affect further analysis. At the time of screening more of the experimental group stated that they were depressed, and more of the control group stated

that they were both anxious and depressed. However, by the time the groups started there were no differences in GHQ scores between the control and experimental groups.

When the compliance of the two groups was compared, similar types and proportions of responses were obtained when patients were categorized by their response to the letter inviting them to attend groups; the contacts made to rearrange groups; and the method of collection of the first set of GHQs.

As far as results other than the two screening questions about anxiety and depression are concerned, the control and experimental group populations appear to be very similar.

It is possible that the differences at screening are not very important for further analyses as there were no differences between the groups on the anxiety and depression results when standardised questionnaires were used to assess these factors at the start of the groups.

B. Experimental versus control treatments in attenders

The main hypothesis of the study was that the experimental group, who received PS/DM training in addition to relaxation training, would improve more over the course of the groups and the followup period and would be less at risk of developing anxiety and depression, than the control group who received relaxation training alone. It was hypothesized that the experimental group would be more able to solve problems and make decisions and so would be less anxious and/or depressed than the control group, and more able to cope.

Comparisons were first made to determine if there were any differences at the start of the groups between those who attended either the control or the experimental groups.

1. A comparison of combined control and combined experimental groups, for patients who attended one or more groups

1.1 GHQ results

The GHQ results were considered the most important results as the GHQ has been used as a screening device to determine caseness and it is sensitive to changes in self-rated degree of anxiety and depression. If the experimental group intervention is the most helpful for treating and preventing anxiety and/or depression, then this should be reflected in the GHQ results.

At the start of the groups On the anxiety subsection of the GHQ (section B) [GHQB] the experimental group was significantly more

anxious at the start of the groups (experimental: $m = 11.5$, $sd = 5.2$, $n = 41$; controls: $m = 9.13$, $sd = 4.9$, $n = 46$; $t = -2.21$, $df = 85$, $p < 0.05$). As it was debatable whether or not parametric analyses should be used, the results were reanalysed using non-parametric statistics. The results obtained confirmed the result of the t-test (M-W, $U = 703.5$, $p < 0.05$) (see summary table, table 16). There is therefore a difference between the groups at the start of the intervention, although there were no significant differences between the groups for those who attended one or more groups on the anxiety and depression questions of the screening questionnaire.

At the end of the groups By the end of the groups the experimental group was not significantly more anxious than the control group on the anxiety subsection of the GHQ (M-W, $U = 735.5$, $p = 0.07$), but a comparison of the total binary (GHQT) scores showed that the experimental group was significantly more distressed than the control group (experimental group: median = 3, $n = 41$; control group: median = 1, $n = 45$: mean 2, 95% CI -3.00 to -0.01; M-W, $U = 699.0$, $p = 0.05$).

Follow-up The experimental group's GHQ total (binary) score had decreased from the start of the groups but not as much as for the control group. By the end of the followup period both the experimental and control group scores had increased a little but there was no significant difference between them. [Experimental group: median = 1.5, $n = 40$; control group: median = 1.0, $n = 38$: mean 0.5, 95% CI -1.0 to -0.0; $p = 0.8$].

When difference scores in GHQ total binary scores were compared, no significant differences were found between the control and

experimental groups (M-W).

It appeared to the experimenter that one or two members of the experimental group became more distressed as they realised what some of their difficulties were due to and started to work out ways of dealing with them. The relaxation only control group did not have to consider their difficulties. This could be one reason why the experimental group did not decrease their total GHQ scores as much as the control group.

Table 16: Comparison of control and experimental attenders and non-
attenders over the course of the study

Time of assess- ments	Exptal. group (attended 1 or more sessions)	Cont. group (attended 1 or more sessions)	Non- attenders	Significance level of differences between exptal and control grp attenders (M-W) (t-test)	Significance level of differences between exptal and control grp non- attenders (M-W) (t-test)
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Mean N S.D. Mean N SD Mean N SD

GHQT

(binary)

1	10.5	41	6.9	9.4	45	7.1	6.0	82	6.6	p = 0.05
2	5.1	41	5.5	3.1	45	4.6	5.8	69	7.2	
3	5.4	40	7.5	4.97	38	7.6	5.2	73	7.6	

GHQT

(simple addition)

1	35.4	41	15.5	31.5	45	13.8	24.5	82	13.6
2	22.0	41	13.6	18.18	45	10.5	23.2	69	15.2
3	22.6	40	17.3	21.6	38	16.8	21.3	73	16.4

GHQB

1	11.5	41	5.2	9.13	46	4.9	6.76	82	4.2	p < 0.05
2	6.9	42	4.5	5.2	45	3.8	6.7	69	5.3	
3	6.8	40	5.1	6.2	39	5.5	5.9	74	5.1	

GHQD

1	4.7	41	5.1	4.3	45	4.3	3.9	82	4.4
2	2.4	41	3.7	1.8	45	3.2	3.3	69	4.9
3	2.5	40	4.4	2.7	38	4.4	3.0	74	4.8

STAI

1	50.2	40	10.1	46.2	46	11.0
2	41.1	38	13.3	38.3	45	12.0
3	38.6	37	12.1	39.9	32	13.5

BDI

1	17.4	40	1.0	14.6	47	8.0
2	11.4	39	9.0	7.7	42	6.4
3	9.5	37	8.2	7.8	32	8.9

1.2 Screening Results

There were differences between the control and experimental groups which may have influenced the anxiety levels at the start of the groups. The experimental group was more likely to have a continuing or longstanding problem for which they were visiting their G.P. at the time of screening. The chi square did not quite reach significance ($X = 5.94$, $df = 2$, $p = 0.0513$). Also, the experimental group were significantly older

than the control group (experimental group: median = 44.5 years, $n = 42$; control group: median = 36 years, $n = 49$; M-W, $U = 743.5$, $p < 0.05$). Age could be related to an increased incidence of medical problems in the experimental group.

1.3 Medical Notes Information

Information obtained from the medical notes showed that the experimental group was significantly more likely to have visited their G.P. with medical problems in the six month period prior to the start of the groups (experimental group: median = 5, $n = 38$; control group: median = 3, $n = 44$; M-W, $U = 600.5$, $p < 0.05$).

1.4 Variables assessed at the start of the groups

The control group rated themselves on the linear analogue scale as significantly more able to cope than the experimental group at the start of the groups (experimental group: median = 6.03, $n = 40$; control group: median = 7.45, $n = 46$; M-W, $U = 619.6$, $p < 0.01$).

The control group may therefore have been more able to learn what was being taught during the groups as they felt less stressed. This may have had a bearing on the outcome of the study. The difference between the groups on their self rated ability to cope had disappeared by the end of the groups.

Another difference between the two groups that almost reached significance was that the control group rated themselves at the start of the groups as having higher expectations that the groups would be

helpful, and this could have had some effect as a self-fulfilling prophecy (M-W, $U = 685.0$, $p = 0.0582$, N.S.) (Bandura, 1977).

There were no significant differences between the control and experimental groups on MEPS scores at the start of the study.

1.5 Variables assessed at the end of the groups and at followup

When a summed means score and a summed effectiveness score was calculated for time 2 and time 3, there was no significant difference between the two scores whatever method of scoring was used.

However, when individual story scores of the MEPS were examined, the significant results obtained indicated that the experimental group improved more than the control group, especially upon story 2 (see appendix v for details).

No other significant differences were found between the two groups, including no significant difference between the two groups on the amount of change over time on the BDI and STAI questionnaires (M-W).

Summary

Although the total control and total experimental groups appeared to be similar at the start of the study, patients who actually attended groups appeared to have selected themselves differentially between the two groups. The people who attended the experimental groups appeared to be more distressed and to have more problems, or more longstanding problems than the control group. The PS/DM results showed no

differences on summed scores between the two groups at the end of the groups or at followup and few differences on individual story scores. So there was little evidence to support the main hypothesis of the study, that the experimental group would be less anxious and/or depressed, and better able to cope and solve problems than the control group when all those who attended one or more groups were compared.

As patients who only attended one session got very little exposure to the PS/DM training, it was thought that comparisons should be made of patients who attended three or more sessions. These patients were thought to have shown some commitment to attending groups and would have had more exposure to PS/DM and so would probably be better able to make use of the approach. It was also thought important to compare patients who attended five sessions who had therefore attended the whole course and had had a chance to put the approach into practice outside the sessions whilst help was available.

1.6 Attendance

Table 17: A comparison of combined control and combined experimental group patients categorized by number of groups attended

	Experimental group	% of total exptal grp	Control group	% of total control grp	Total number	% of total number in study
1) Total no. of pts invited to groups	142		138		280	
2) Number of pts who did not attend	100	70.42	89	64.49	189	67.5
3) Number of pts who attended 1 or more groups	42	29.58	49	35.51	91	32.5
4) Number of pts who attended						
1 group	9	6.34	14	10.41	23	8.21
2	4	2.82	2	1.45	6	2.14
3	5	3.52	7	5.07	12	4.29
4	10	7.04	18	13.04	28	10
5	14	9.86	8	5.8	22	7.86

5) Number who attended 3 or more groups	29	20.42	33	23.91	62	22.15
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6) Number who attended specially arranged individual sessions	17	4
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Of those who attended groups, significantly more of the experimental group attended specially arranged individual sessions during the period of the groups (experimental group: attended = 17, did not attend (DNA) = 25; control group: attended = 4, DNA = 45; Fisher's Exact Probability $p < 0.001$).

The experimental group also attended more sessions where they were the only person present in the 'group' (experimental group: yes = 27, no = 15; control group: yes = 17, no = 32; $X = 6.789$, $df = 1$, $p < 0.01$).

It was easier to encourage the experimental group to attend the special individual sessions as they valued the opportunity to work on their own particular problems individually, or to talk about personal matters in private. The control group, however, saw little need to attend extra individual sessions.

Despite these differences in individual attention between the control and experimental groups, the experimental group did not show a very marked improvement compared with the control group.

2. A comparison of combined control and combined experimental groups: patients who attended three or more groups, or 5 groups

As few differences were found between the control and experimental groups when all patients who attended groups were compared, patients who attended three or more groups were compared. It was thought that patients who attended three or more groups had shown some commitment towards trying to attend the groups and make use of what they were taught. Patients who attended all five groups were also compared as only those in the experimental group who attended all 5 sessions would have been thoroughly taught the whole PS/DM package.

2.1 GHQ results

For those who attended 3 or more groups, the experimental group rated themselves as significantly more anxious on the anxiety subsection of the GHQ at the start of the groups (experimental group: $m = 11.34$, $sd = 4.87$, $n = 29$; control group: $m = 8.59$, $sd = 4.6$, $n = 32$; $t = -2.27$, $df = 59$, $p < 0.05$) (M-W, $U = 322.5$, $p < 0.05$). However the total scores (binary or simple addition total scores) were not significantly different.

No other significant differences between the two groups were found at the end of the groups, or at followup. Nor were there significant differences between the two groups when GHQ total difference scores were compared (binary or addition totals).

When those who attended 5 groups were compared, there were no

significant differences between the experimental and control groups on GHQ28 scores.

2.2 Repeated measures variables

2.2.1 At the start of the groups When those who attended 3 or more groups were compared, the experimental group rated themselves as significantly more anxious on the STAI questionnaires (experimental group: median = 50, n = 29; control group: median = 41.5, n = 32; M-W, U = 322.0, $p < 0.05$).

In contrast, the control group rated themselves, using the linear analogue scales, as significantly more able to cope (experimental group: median = 5.5, n = 29; control group: median = 7.85, n = 32; M-W, U = 268.5, $p < 0.05$).

For those who attended 5 groups, no significant differences were found between the groups on any variables on any of the 3 assessments except for the problem solving measures.

2.2.2 At the end of the groups The control group who attended 3 or more sessions still rated themselves as significantly more able to cope, although the experimental group had increased their score and rated themselves as better able to cope than before (experimental group: median = 6.5, n = 29; control group: median = 8.35, n = 33; M-W, U = 326.5, $p < 0.05$). Once again, more of the experimental group attended more specially arranged individual sessions (experimental group: attended = 16, DNA = 13; controls: attended = 3, DNA = 30))Fisher's exact

probability: $p < 0.0001$). The experimental group also had more sessions where they were the only person present (experimental group: yes = 24, no = 5; control group: yes = 15, no = 18; Fisher's exact probability $p < 0.01$).

2.2.3 At followup No significant differences between the groups were found for those who attended three or more groups. Also when the BDI and STAI difference scores were compared, no differences were found between the control and experimental groups (M-W).

2.3 Problem solving results

Summed scores

When the means and effectiveness scores were summed for time 1 to make a total score and this was repeated for times 2 and 3, using each method of scoring, it was found that the effectiveness score for the experimentals at time 3 (method B scoring) was significantly higher than for the controls (experimental group: median = 20, $n = 25$; control group: median = 17, $n = 24$; M-W, $U = 198.5$, $p < 0.05$).

When the results of those who attended 5 or more groups were compared at the end of the groups, the experimental group scored significantly more means than the control group when summed means scores from all 4 stories were compared (using the Manual method of scoring) (experimental group: median = 18, $n = 14$; control group: median = 12.5, $n = 8$; M-W, $U = 26.5$, $p < 0.05$).

So the indications from the summed scores are that the experimental group improved more than the control group on problem solving and decision making ability. The results of the analyses of individual stories and scoring methods confirm this (see appendix v for details).

2.4 Screening results

No significant differences were found between the two groups on any of the screening questionnaire questions (M-W's and chi-squares N.S.) for those who attended 3 or more, or 5 groups.

2.5 Medical notes information

In the six months prior to the start of the groups the experimental group members visited their GP with medical problems more times than the control group (experimental group: median = 5, n = 25; control group: median = 3, n = 31; M-W, $U = 248.5$, $p < 0.05$). This was true of those who attended three or more groups.

The experimental group also visited their doctor more during the course of the groups and the visits had a psychological component to them (experimental group: median = 0, n = 27; control group: median = 0, n = 32; M-W, $U = 341.5$, $p < 0.05$).

During the followup six months, the experimental group again paid more visits of a psychological nature (experimental group: median = 1, n = 27; control group: median = 0, n = 32; M-W, $U = 286.5$, $p < 0.05$). It appears that the experimental group had a) more physical ailments that

during the course of the study caused psychological problems, or b) the experimental group became more able to identify and talk about the psychological aspect of their problems as a result of attending the groups.

When those who attended 5 groups were compared, it was found that the experimental group made more visits to their G.P. during the 6 month followup period, and the visit had a psychological component to it (experimental group: median = 1.5, $n = 12$; control group: median = 3, $n = 8$; M-W, $U = 23.0$, $p < 0.05$).

There were no differences between the groups during the 6 months before the start of the study, so the difference during the followup 6 months could be due to the experimental group being more able to talk about the psychological aspects of their troubles.

The experimental group attended more specially arranged individual sessions (experimental group: attended = 9, DNA = 5; control group: attended = 0, DNA = 8; Fisher exact probability $p < 0.01$). They also attended more sessions where they were on their own (experimental group: yes = 11, no = 3; control group: yes = 2, no = 6; Fisher exact probability $p < 0.05$). As noted previously, the experimental group were better able to see a reason for attending the individual sessions.

Summary

When those who attended 3 or more groups were compared, the

experimental group appeared to have been more troubled at the start of the groups – they were more anxious and felt less able to cope.

There were no significant differences between the two groups at the start of the study on problem solving measures. However, by the end of the groups, when the scores were summed to give a total score, the experimental group appear to have improved the effectiveness of their problem solving.

The change in the experimental group from more medical visits prior to the groups to more visits with a psychological component during and after the groups could be interpreted as:

- (a) these patients having more longstanding medical problems which led to psychological problems such as anxiety, or
- (b) that prior to the groups these patients attended their G.P. with physical problems as this was a more acceptable reason for visiting their G.P., but after the groups they recognised or talked more about the psychological aspects of their problems.

Support for the second interpretation was noted by the experimenter during the course of the groups. For example, one woman complained of headaches and a variety of vague aches and pains at the start of the groups. During the course of the groups, whilst trying to sort out some of her problems, she realised that her marriage was not as good as she had previously believed, and indeed had perhaps never been good. For a time this caused her increased distress but she was more able to

identify the source of her difficulties as being psychological rather than physical and was more able to talk about the problems and think of ways to deal with them.

When those who attended 5 groups were compared, the experimental group, despite having had more individual time, were not significantly less anxious or depressed nor better able to cope than the control group. However, problem solving skills, as measured by summed "means" MEPS scores, appeared to increase more in the experimental group than the control group.

3. A comparison of control and experimental group patients who attended one or more groups, controlling for intellectual level and initial level of distress

3.1 Intellectual level

It was thought that patients who were more intellectually able would be more able to understand and use the PS/DM procedures both during the groups and afterwards during the six month followup period. They would be more able to apply the techniques to new problem situations at an early stage and prevent problems developing. It appeared to the experimenter that the few intellectually able patients in the groups benefitted greatly from learning about PS/DM techniques, whereas the less able worked on problems with help during the sessions but were unable to apply the steps to new problems for themselves.

As a rough indication of I.Q. patients were asked if they had any qualifications. Only four patients had 'O' levels or above, so any type of qualification was considered. When patients who had qualifications were selected and compared, no significant differences between the groups were found. The problem solving summed scores results showed that there were no significant differences between the groups except for the effectiveness score at followup (method A scoring). The controls scored significantly better than the experimental group (experimental group: median = 17.5, n = 10; control group: median = 22, n = 11; M-W, U = 11.5, $p < 0.01$).

The individual analyses of all 4 stories and all 4 methods of scoring showed that the experimental group scored more means (using

all 4 methods of scoring) and effectiveness scores were only higher when method A (i.e. the independent raters' method) of scoring was used (see appendix v for details).

As previously stated, the scoring of means is a more objective measure of PS/DM ability than the effectiveness scores which depend upon the opinion of the rater.

Overall it appears that the experimental group were better than the control group at producing means for problem-solving. However, according to one rater, the control group produced more effective methods of solving their problems at 6 month followup.

3.2 Initial level of distress

The aim of the study was to select patients who were not greatly distressed. A proportion of these patients would be expected to become more distressed and be identified by their GP's as being ill. The rest would be expected to improve gradually. For patients who were greatly distressed at the start of the study, it was expected that they would improve, but the question was did the experimental group improve more than the control group? For those who were not greatly distressed, was being in the experimental group more effective at decreasing, or preventing, an increase in GHQ scores?

The cutoff point for the GHQ is usually considered to be between 4 and 5 (using the binary total score). The control and experimental patients with a score of 5 or above (experimental group = 33, control group = 30) were compared and further comparisons were made for

patients with a score of 4 and less (experimental group = 8, control group = 15), and comparisons of 6 and less were also made (experimental group = 15, control group = 17) as there were few patients on which to base a comparison for those scoring 4 or less.

3.2.1 Patients with an initial total GHQ (binary) score of 5 or more

3.2.1.1 Repeated measures variables Having selected patients with an initial GHQ binary total score of 5 or above, when the control and experimental groups were compared, there were no significant differences between the groups on any of the repeated measures variables except problem solving and decision making.

3.2.1.2 Problem solving results When summed scores were examined, the significant and nearly significant results obtained indicated that the experimental group had produced more effective scores than the control group. Using method B of scoring, the experimental group had more effective scores at the end of the groups and at followup (experimental group: median = 19, n = 26; control group: median = 16.5, n = 16; M-W, U = 135.0, p = 0.058) (experimental group: median = 20, n = 22; control group: median = 17, n = 19; M-W, U = 128.0, p < 0.05). Method C scoring showed that the experimental group had more effective scores at the end of the groups and this nearly reached significance (experimental group: median = 20, n = 26; control group: median = 19, n = 16; M-W, U = 134.5, p = 0.0549).

3.2.2 Patients with an initial GHQ total (binary) score of 6 or less

3.2.2.1 G.H.Q. results When GHQ total scores were compared, the experimental group were significantly more distressed than the control group at the start of the groups (binary scores: experimental group: median = 4, n = 15; control group: median = 2, n = 17; M-W, U = 68.0, $p < 0.05$)(simple addition scores: experimental group: median = 21, n = 15; control group: median = 16, n = 17; M-W, U = 71.0, $p < 0.05$). By the end of the groups and at followup there were no significant differences between the two groups.

When GHQ difference scores (the score at followup subtracted from the score obtained at the beginning of the groups) were compared, the experimental group was found to have a significantly greater decrease in scores (experimental group: median = 3, n = 13; control group: median = 0, n = 12; M-W, U = 31.0, $p < 0.01$).

3.2.2.2 Other repeated measures variables Only one difference was found between the control and experimental groups on the self-completed questionnaires. The control group rated themselves as significantly more able to cope than the experimental group when assessed at the start of the groups (experimental group: median = 5.5, n = 15; control group: median = 8.45, n = 17; M-W, U = 49.5, $p < 0.005$). No significant difference was found at the end of the groups or at followup.

3.2.2.3 Problem solving measures When summed scores were

examined according to method A of scoring, the controls had higher effectiveness scores at followup (experimental group: median = 16, n = 11; control group: median = 22, n = 8; M-W, U = 15.0, $p < 0.05$).

3.2.2.4 Screening results When patients who had an initial GHQ total (binary) score of 6 or less were selected no differences were found between the two groups.

3.2.3 Patients with a GHQ total score (binary) of 4 or less

The numbers for comparison were small but the results obtained are detailed below.

3.2.3.1 G.H.Q. results No significant differences were found between the two groups. The GHQ difference scores between the start of the groups and followup did not reach significance, but indicated that the experimental group changed more than the control group.

3.2.3.2 Problem solving measures No significant differences were found (whatever method of scoring was used) when the summed scores of the control and experimental groups were compared.

3.2.3.3 Screening results No significant differences were found between the groups when data obtained at the time of screening were compared.

3.2.3.4 Linear analogue scales completed by the patient's GP showed

that the control group were significantly more angry at followup than the experimental group (experimental group: median = 4.175, n = 6; control group: median = 6, n = 10, M-W, $U=10.0$, $p < 0.05$).

Summary

When patients were selected who had an initial total GHQ (binary) score of 5 or more, it was found by the end of the groups that the control group had lower GHQ total (binary) scores and so were less distressed than the experimental group, but the experimental group were better at producing more effective methods of solving their problems.

When patients were selected who had an initial total GHQ (binary score) of 6 or less, it was found that although the experimental group were more distressed at the start of the groups, there were no differences between the two groups at the end of the groups or at followup on GHQ scores. The summed PS/DM scores showed that the control group had more effective means at followup than the experimental group but only on one method of scoring the MEPS.

Although the numbers of patients in each group were small, when those with an initial GHQ total (binary) score of 4 or less were selected, the results indicated that there were few differences between the control and experimental groups.

The results are not clear-cut but suggest that if the initial GHQ total (binary) score was high, then those in the experimental group had

the best outcome, but if the initial GHQ total (binary) score was low, the control group had the best outcome or there were no differences between the two groups.

One possible interpretation of these results is that for those who are more able and who have many, or more severe, problems, it is worthwhile teaching them a PS/DM approach for their problems, but for those with few, or less severe, problems and who are less able, it may not be worth teaching a self help PS/DM approach as they find it hard to understand and to apply, and it may cause more distress as patients have to think about their problems. Furthermore, relaxation training alone is very effective.

4. Are there any differences on initial GHQ, BDI and STAI scores and expectations of the groups between patients who attended 1, 2, 3, 4 or 5 groups? Is it possible to predict how many groups a person will attend on the basis of these scores?

From looking at the results no clear pattern emerges which would enable a prediction to be made as to how many groups any one individual would attend. This observation was supported by the fact that the experimenter having met the patients was unable to predict who would attend and continue to attend groups. Also, many of the reasons given for non-attendance during the course of the groups were for such things as illness in the children, and a school strike which meant that the children were sent home and had to be looked after. These factors were not directly linked with the way the patient felt at the start of the groups. Attendance was not simply related to the initial degree of

distress in the patient or how they viewed the groups, but was influenced by the patients' other commitments.

C. Effects of either treatment (i.e. attenders vs non-attenders)

1. Non-attenders from the two health centre populations: can they be combined?

When non-attenders from the two health centres were compared, there were no significant differences on screening variables related to anxiety and/or depression, nor on GHQ total scores (binary scoring and simple addition scores). It appears therefore that the non-attenders in the two health centres could be combined into one large group. Comparison with attenders could then be made using a larger sample.

2. A comparison of combined attenders and combined non-attenders

A comparison was made between all patients who attended one or more groups and all patients who did not attend groups in order to determine if those who attended groups improved more than those who did not attend and if the attenders were different from those who did not attend. Was it possible to predict who would attend groups?

2.1 GHQ results

A significant difference was found on the GHQ total scores at the start of the study, the attenders were more distressed (binary scores: M-W, $U = 2270.5$, $p < 0.001$, see table 18). So it might be possible to predict that those who are more distressed (as measured by the GHQ total score) are more likely to attend groups designed to teach coping skills. When the mean scores of the attenders were compared over the course of the study, the scores decreased to a level below that of the

non-attenders over the period of the groups, and then increased a little by the time of the six month followup. The scores for the non-attenders decreased over the whole period of the study but the final scores were very similar for both groups. It appears from this that the attenders improved more, or more quickly, than the non-attenders, but the outcome at six month followup was very similar for the attenders and the non- attenders.

Table 18: GHQ total binary scores

	Time 1	Time 2	Time 3
<u>non-attenders:</u>			
median	3	2	1
m	6.01	5.8	5.19
sd	6.59	7.2	7.6
n	82	69	73
<u>attenders:</u>			
median	9	2	1
m	9.93	4.05	5.18
sd	6.98	5.09	7.49
n	86	86	78

The means scores results were similar for the GHQ (simple addition) total scores with the attenders having significantly higher scores at the start of the study (M-W, $U = 2292.5$, $p < 0.001$, see table 19). The scores of non-attenders decreased at each assessment, whereas for the attenders the scores decreased at the second assessment to a level below that of the non-attenders, then increased a little to reach a level

similar to that of the non-attenders.

Table 19: GHQ total (simple addition) scores

	Time 1	Time 2	Time 3
<u>non-attenders:</u>			
median	21.5	19	16
mean	24.55	23.16	21.33
sd	13.58	15.17	16.42
n	82	69	73

attenders:

median	31.5	19	16
m	33.36	20	22.08
sd	14.69	12.14	16.95
n	86	86	78

GHQ difference variables When the GHQ difference scores were computed for each individual (the first GHQ total binary score minus the second GHQ total binary score), it was found that the attenders had a higher mean score than the non-attenders, i.e. there was a greater decrease in GHQ total score for those who attended the groups and this difference was significant (attenders: median = 4, n = 83; non-attenders: median = 0, n = 68; M-W, U = 1648.0, $p < 0.001$). There was also a significant difference in difference scores between GHQ scores obtained at the start of the study and at six month followup (attenders: median = 5, n = 75; non-attenders: median = 0, n = 72; M-W, U = 1700.5, $p < 0.001$). Again there was a greater degree of change in the attenders than the non-attenders.

However, when comparisons were made of difference scores calculated from scores obtained at the end of the groups and at followup, no significant differences between attenders and non-attenders were found. This indicated that the greatest change in scores took place in the attenders during the course of the groups.

Summary

The attenders were more distressed at the start of the study but their scores decreased to a level below that of the non-attenders by the end of the groups. At the 6 month followup the scores for both groups were very similar.

2.2 Screening results

More non-attenders stated that they were depressed when they were screened at the start of the study.

Table 20: Depressed at screening

	Yes	No	Total
Non-attenders	152 (80.9%)	36 (19.1%)	188 (67.6%)
Attenders	63 (70.0%)	27 (30.0%)	90 (32.4%)
	215	63	278

($\chi^2 = 3.49$, $df = 1$, $p = 0.06$)

However, there was no difference between the two groups when the self-reported degree of depression was compared. If patients were depressed, they may have felt hopeless and that there was no point in attending groups or they may have lacked the motivation to do anything to improve the situation, so did not attend groups.

Further differences between attenders and non-attenders were that more of the patients who attended groups were married.

Table 21: Marital status

	Single	Married	Widowed	Divorced	
Non-attenders	28 (30.1%)	42 (45.2%)	6 (6.5%)	17 (18.3%)	93
Attenders	8 (9.2%)	60 (69.0%)	8 (9.2%)	11 (12.6%)	87
	36	102	14	28	180

($\chi^2 = 15.68$, $df = 3$, $p < 0.01$)

Being married may have been linked with the fact that the attenders were significantly older than the non-attenders (attenders: median = 41.17, $n = 91$; non-attenders: median = 30, $n = 189$; M-W, $U = 6275$, $p < 0.001$).

2.3 Medical notes information

No significant differences were found when information from attenders and non-attenders were compared.

2.4 Doctors' ratings

No significant differences were found when the results of attenders and non-attenders were compared.

Summary

It would not be possible to predict if a specific individual would attend groups as there was a wide spread of results, both for attenders and non-attenders. Nevertheless, those who attended groups tended to be women who were more distressed at the time of the start of the groups, they also tended to be married and older than the non-attenders.

The results of the GHQ questionnaires indicate that although those who attended groups tended to be more distressed at the start of the groups, those who attended groups improved more, or improved more quickly over the period of the groups, than those who did not attend groups. Nevertheless, by the six month followup, the results were similar for attenders and non-attenders. Attending groups therefore appears to be beneficial, at least initially.

It should be remembered that the non-attenders did not form a strict control group as they themselves decided not to attend groups, also the

GHQ questionnaires were not collected from all non-attenders but only from those who could be contacted and who returned GHQs.

It may be that the results of the non-attenders are biased in the direction of obtaining results from the less distressed. The more distressed may have been harder to collect completed questionnaires from as they refused to co-operate as they were not coping well, or they were experiencing more life events (such as moving house) which made it hard for them to participate in the study. One way to get round this problem was to compare GHQ results for those who attended groups or those who did not attend groups controlling for initial level of distress as measured by the GHQ.

2.5 A comparison of attenders and non-attenders controlling for initial level of distress (GHQ results only)

As those who attended groups were significantly more distressed than those who did not attend groups (but from whom GHQs were collected), the greatest degree of change in the attenders may have been due to the fact that the attenders were more distressed and so over time their scores would be expected to decrease more as they reverted towards the mean of the population. For patients with lower scores initially less change would be required to revert towards the mean, and at least some would be expected to worsen, so there would be less overall improvement in scores for the non-attenders. In order to control for this factor, patients who scored 5 or more, 4 or less (or 6 or less) on the GHQ (binary) score at the start of the groups, were compared.

2.5.1 Initial GHQ binary total score of 5 or more

When GHQ total (binary) scores were compared, having selected those with an initial GHQ total (binary) score of 5 or more, it was found that the initial mean scores were similar for the two groups. For the attenders the mean score decreased during the period of the groups, then increased a little by the 6 month followup. The mean scores for the non-attenders decreased throughout the period of the study. Nevertheless, the scores for attenders at times 2 and 3 were lower than for the non-attenders.

Table 22: GHQ total (binary) scores for patients selected for having an initial GHQ score of 5 or above

	Time 1	Time 2	Time 3
<u>Non-attenders:</u>			
median	13	10	7
mean	12.5	9.97	8.65
sd	5.04	6.46	8.43
n	35	30	31
<u>Attenders:</u>			
median	13	2	3
mean	12.89	4.72	6.68
sd	5.73	5.48	8.18
n	63	60	57

The difference between the scores of the attenders and non-attenders was significant at the end of the groups (binary scores: M-W, $U = 455.0$, $p < 0.001$ (see graph 1 and table 22); simple addition total scores of attenders: median = 20, $n = 60$; non-attenders: median =

30, $n = 30$; M-W, $U = 511.0$, $p < 0.001$).

Comparing the GHQ difference scores, there was a significantly greater change in the attenders than the non-attenders between the start and the end of the groups, but not between the start of the groups and at followup (binary scores of attenders: median = 7.5, $n = 60$; non-attenders: median = 2, $n = 30$; M-W, $U = 552.0$, $p < 0.01$; simple addition scores of attenders: median = 16.5, $n = 60$; non-attenders: median = 4, $n = 30$; M-W, $U = 511.0$, $p < 0.001$).

2.5.2 Initial GHQ total (binary) score of 4 or less (GHQ results only)

When the GHQ total (binary) scores were compared, no significant differences were found between the attenders and non-attenders, although the results almost reached significance for the scores at the start of the study (M-W, $U = 395.0$, $p = 0.0559$, see table 23).

The mean GHQ total (binary) scores increased over the period of the groups and remained at about the same level when assessed at the 6 month followup for the non-attenders.

For the attenders means scores increased over the period of the groups, then decreased to below their original level by the 6 month followup but the median scores showed a steady decrease throughout the study.

Table 23: GHQ total (binary) scores in patients selected for having an initial score of 4 or less

	Time 1	Time 2	Time 3
<u>Non-attenders:</u>			
median	0	0	0
mean	1.19	2.66	2.7
sd	1.41	6.108	5.88
n	47	38	41
<u>Attenders:</u>			
median	2	1	0
mean	1.83	2.5	1.06
sd	1.4	3.85	2.3
n	23	23	18

(See graph 2).

GHQ total (binary) difference scores

There was a significantly greater change for the attenders between times 1 and 3 (attenders: median = 0.5, n = 18; non-attenders: median = 0, n = 41; M-W, U = 248.5, p < 0.05). No significant difference between the groups was found for the difference scores between times 1 and 2, and 2 and 3. The simple addition results mirror the binary score results but as they add no further information they will not be reported here.

2.5.3 Initial GHQ score of 6 or less

When patients with an initial GHQ total (binary) score of 6 or less were compared, there was a significant difference on GHQ total (binary) scores between attenders and non-attenders at the start of the groups - attenders had higher scores than non-attenders (M-W, $U = 540.5$, $p < 0.01$, see table 24). However there were no significant differences between attenders and non-attenders at the end of the groups or at followup.

In the non-attenders group the mean GHQ total binary scores increased during the period of the study. For the attenders the scores decreased during the course of the study.

Table 24: GHQ scores for patients selected for having an initial GHQ score of 6 or less

	Time 1	Time 2	Time 3
<u>Non-attenders:</u>			
median	1	0	0.5
mean	1.64	3	3.3
sd	1.9	6.15	6.31
n	52	40	46
<u>Attenders:</u>			
median	3	1	0
mean	2.8	2.78	1.84
sd	2.05	3.8	3.8
n	32	32	25

GHQ total (binary) difference score

There was a significantly greater change in scores between times 1 and 3 for the attenders as compared with the non-attenders (attenders: median = 1, n = 25; non-attenders: median = 0, n = 46; M-W, U = 365.0, $p < 0.01$).

There was no significant difference between the two groups in degree of change between times 1 and 2, and 2 and 3.

Summary

When patients with low initial GHQ total scores were compared, attenders at the end of the groups and at 6 month followup had lower scores than non-attenders. Those who were more distressed at the start of the study were more likely to attend groups. Attenders were also likely to improve more or improve faster than the non-attenders during the period of the groups, although by the 6 month followup the results for the attenders and non-attenders were similar. For those selected with a high initial GHQ total (binary) score, the attenders improved more than the non-attenders, and the change was greatest during the period of the groups. The mean scores were lower for the attenders than the non-attenders at the end of the groups and at 6 month followup.

When patients with a similar degree of distress at the start of the study were compared, those who attended the groups appeared to benefit the most.

3. Was there a significant improvement over time? Did those who attended groups improve more than those who did not attend?

3.1 Non-attenders

GHQ total (binary) scores were analysed to determine if there was a significant improvement over the course of the study. For non-attenders there was no significant improvement between times 1 and 2, 2 and 3, 1 and 3 (Wilcoxon), see table 18).

However, when the GHQ total (simple addition) scores were analysed, there was a significant improvement between the 1st and 2nd and the 1st and 3rd assessments respectively (see summary table 16 and table 19). (Wilcoxon comparison of results obtained at time 1 and 2, $Z = -2.1279$, $p < 0.05$; Wilcoxon comparison of results obtained at time 1 and 3, $Z = -2.1195$, $p < 0.05$). There was no significant change between the 2nd and 3rd assessments.

3.2 Attenders who attended one or more groups

There was a significant change in GHQ total (binary) scores for attenders between times 1 and 2 (Wilcoxon, $Z = -5.9595$, $p < 0.001$), and times 1 and 3 (Wilcoxon, $Z = -5.0221$, $p < 0.001$), but not between times 2 and 3. The scores were lower at times 2 and 3, than they were at the start of the study. (See table 18).

The same pattern of results was found for the simple addition total scores where there was a significant decrease in scores between times 1 and 2 (Wilcoxon, $Z = -6.5017$, $p < 0.001$), and times 1 and 3 (Wilcoxon, $Z = -5.5168$, $p < 0.001$), but not between times 2 and 3. (See table 19, and graphs 3 and 4).

Summary

There was a significant improvement over time for simple addition total scores for both the attenders and the non-attenders, but for the binary scores there was only a significant improvement for those who attended groups.

4. A comparison of control and experimental attenders, and non-attenders. Did the experimental group improve more than the control group? A comparison of GHQ difference scores

In order to determine if the experimental attenders had improved more than the control group attenders and the non-attenders during the course of the groups, GHQ total (binary) difference scores were compared. Scores obtained at the end of the groups were subtracted from scores obtained at the start of the groups (time 1 minus time 2 scores).

There are difficulties with using difference scores (Plewis, 1985) and these should be borne in mind when considering the results below. The main problems are concerned with a) how reasonable it is to assume that a difference between tests on two occasions will give a valid measure of change. This could be a problem in the present study where changes in the somatic questions of the GHQ28 could be due to physical illness or the menopause and not be due to changes in ability to cope, and anxiety and depression; b) a change in the lower end of the scale may not be equivalent to a change in score at the upper end of the scale, so by putting a number of individual change scores together from different parts of the scale, the experimenter may lose much

information about relative change, which is of interest; c) an observed individual change may not equal "true" individual change and so individual scores may be unreliable.

It was found that 24 patients (29.3%) of the non-attenders had a GHQ total (binary) score of 0 at the start of the study and could not therefore show any improvement during the course of the study. This compared with two patients (4.8%) of the experimental group attenders and four patients (8.2%) of the control group attenders who had a score of 0 at the start of the study. As these patients could not show any improvement, and as these scores produced a skew in the distribution of the scores of the non-attenders, these patients were excluded from the comparison of difference scores. Patients were also excluded from the analysis of difference scores of subsections of the GHQ, if they scored 0 for that particular subsection of the GHQ at the start of the study.

The results obtained showed that there was no significant difference between the groups when initial GHQ total (binary) scores were compared (K-W, $\chi^2 = 4.41$, $p = 0.11$) but the results of a Kruskal Wallis one-way ANOVA of the difference scores showed that there was a significant difference between the groups, with the control group showing the greatest improvement and the non-attenders showing the least change (see table 25).

When GHQ total (simple addition) change scores and the subsections A, B (anxiety), and C, change scores were compared, there was a significant difference between the groups and it was the experimental group who improved the most. However the groups were significantly different (on simple addition total scores, and subsections

A and B scores) at the start of the groups, with the experimental attenders being the most distressed and the non-attenders being the least distressed. (Simple addition total; K-W, $\chi^2 = 15.43$, $p < 0.001$; subsection A: K-W, $\chi^2 = 14.47$, $p < 0.001$; subsection B: K-W, $\chi^2 = 22.17$, $p < 0.001$). There was no difference between the groups on subsection D (depression) of the GHQ (see table 26) B,C,D,E (pooled variance estimates of t values are given unless otherwise stated).

So it appears that there is little difference between the attenders in the control and experimental groups, but those who attended groups improved more over the period of the groups than those who did not attend. This was true of all GHQ subsections except depression.

K-W comparisons of GHQ change scores, calculated by subtracting scores obtained at the end of the followup period from those obtained at the start of the study (time 1 minus time 3 scores) showed that there were significant differences between the groups on GHQ total (binary), as well as GHQ total (simple addition) scores, and scores on subsections A and B (see tables 30 - 33). Those who attended improved more (particularly those in the experimental group) than those who did not attend groups.

When GHQ total (binary) scores were computed by subtracting scores obtained at followup from scores obtained at the end of the groups (time 2 minus time 3 scores), no differences were found between the three groups, thus indicating that the greatest change in scores took place during the five week period of the groups rather than during the followup 6 month period. As this result showed no significant differences between the groups, no further more detailed analyses of

change scores between times 2 and 3 for subsections of the GHQ were carried out.

Summary

When patients were compared who had rated themselves on the GHQ as being at least a little troubled at the start of the study, it was found that the greatest improvement in GHQ scores took place during the period of the groups. Those who attended groups improved more than those who did not attend groups, and the majority of results showed that it was the experimental group who improved the most, although it must be remembered that the experimental group received more individual attention than the control group.

Table 25: Difference scores for attenders and non-attenders: GHQ total (binary) scores: (time 1 minus time 2 scores)

Patients with an initial GHQ total (binary) score of 1 or more were selected for analysis.

Group	Number	Mean	Standard deviation
1. Experimental group attenders (attended 1 or more groups)	38	5.61	6.93
2. Control group attenders (attended 1 or more groups)	39	6.82	7.45
3. Non attenders	49	1.61	6.87

K-W: $\chi^2 = 12.67$ $p < 0.01$

ANOVA

f ratio = 6.64 $p < 0.01$

CONTRASTS

T ((1 + 2) with 3)	$t = -3.56$	$p < 0.01$
T (1 with 3)	$t = -3.43$	$p < 0.01$
T (2 with 3)	$t = -2.61$	$p < 0.05$
T (1 with 2)	$t = -0.75$	$p = 0.45$ (N.S.)

Table 26: Difference scores for attenders and non-attenders: GHQ total (simple addition) scores: (time 1 minus time 2 scores)

Patients with an initial GHQ total (simple addition) score of 1 or more were selected for analysis. Attenders refers to patients who attended 1 or more groups.

Group	Number	Mean	Standard deviation
1. Experimental group attenders	40	13.23	14.47
2. Control group attenders	43	12.86	15.39
3. Non attenders	67	2.61	13.0

K-W: $\chi^2 = 17.96$ $p < 0.001$

ANOVA

f ratio = 10.13 $p < 0.001$

CONTRASTS

T ((1 + 2) with 3)	$t = -4.5$	$p < 0.001$
T (1 with 3)	$t = -3.72$	$p < 0.001$
T (2 with 3)	$t = -3.77$	$p < 0.001$
T (1 with 2)	$t = 0.118$	$p = 0.907$ (N.S.)

Table 27: Difference scores for attenders and non-attenders: GHQ section A scores: (time 1 minus time 2 scores)

Patients with an initial GHQA score of 1 or more were selected for analysis. Attenders refers to patients who attended 1 or more groups.

Group	Number	Mean	Standard deviation
1. Experimental group attenders	41	3.77	5.25
2. Control group attenders	44	3.55	5.15
3. Non attenders	64	0.84	4.05

K-W: $\chi^2 = 10.88$ $p < 0.01$

ANOVA

f ratio = 6.42 $p < 0.01$

CONTRASTS

T ((1 + 2) with 3)	$t = -3.58$	$p < 0.001$
T (1 with 3)	$t = -2.91$	$p < 0.01$
T (2 with 3)	$t = -3.07$	$p < 0.01$
T (1 with 2)	$t = 0.21$	$p = 0.84$ (N.S.)

Table 28: Difference scores for attenders (1 or more groups) and non-
attenders: GHQ section B scores (time 1 minus time 2 scores)

Patients with an initial GHQB score 1 or more were selected
for analysis.

Group	Number	Mean	Standard deviation
1. Experimental group attenders	41	4.6	4.74
2. Control group attenders	43	3.88	4.69
3. Non attenders	67	0.24	4.19

K-W: $\chi^2 = 25.47$ $p < 0.001$

ANOVA

f ratio = 15.40 $p < 0.001$

CONTRASTS

T ((1 + 2) with 3)	t = 5.5	$p < 0.001$
T (1 with 3)	t = -4.16	$p < 0.001$
T (2 with 3)	t = -4.995	$p < 0.001$
T (1 with 2)	t = 0.82	$p = 0.42$ (N.S.)

Table 29: Difference scores for attenders (1 or more groups) and non-attenders: GHQ section C scores: (time 1 minus time 2 scores)

Patients with an initial GHQC score of 1 or more were selected for analysis.

Group	Number	Mean	Standard deviation
1. Experimental group attenders	40	3.18	5.04
2. Control group attenders	43	2.67	4.58
3. Non attenders	66	0.86	3.98

K-W: $\chi^2 = 6.88$ $p < 0.05$

ANOVA

f ratio = 4.03 $p < 0.05$

CONTRASTS

T ((1 + 2) with 3)	$t = -2.804$	$p < 0.01$
T (1 with 3)	$t = -2.074$	$p < 0.05$
T (2 with 3)	$t = -2.59$	$p < 0.05$
T (1 with 2)	$t = 0.511$	$p = 0.61$ (N.S.)

Table 30: Difference scores for attenders (1 or more groups) and non-attenders: GHQ total (binary) scores (time 1 minus time 3 scores)

Patients with an initial GHQ total (binary) score of 1 or more were selected for analysis.

Group	Number	Mean	Standard deviation
1. Experimental group attenders	37	5.68	8.08
2. Control group attenders	32	5.28	7.19
3. Non attenders	52	2.17	7.14

K-W: $\chi^2 = 8.34$ $p < 0.05$

ANOVA

f ratio = 2.97 $p < 0.06$ N.S.

CONTRASTS

T ((1 + 2) with 3)	$t = -2.41$	$p < 0.05$
T (1 with 3)	$t = -1.86$	$p = 0.07$ (N.S.)
T (2 with 3)	$t = -2.186$	$p < 0.05$
T (1 with 2)	$t = 0.219$	$p = 0.8$ (N.S.)

Table 31: Difference scores for attenders (1 or more groups) and non-attenders: GHQ total (simple addition) scores: (time 1 minus time 3 scores)

Patients with an initial GHQ total score of 1 or more were selected for analysis.

Group	Number	Mean	Standard deviation
1. Experimental group attenders	39	13.67	17.8
2. Control group attenders	36	10.25	14.48
3. Non attenders	71	3.13	15.74

K-W: $\chi^2 = 14.97$ $p < 0.001$

ANOVA

f ratio = 6.05 $p < 0.01$

CONTRASTS

T ((1 + 2) with 3) $t = -3.33$ $p < 0.01$

T (1 with 3) $t = -2.17$ $p \leq 0.05$

T (2 with 3) $t = -3.3$ $p < 0.01$

T (1 with 2) $t = 0.92$ $p = 0.36$ (N.S.)

Table 32: Difference scores for attenders (1 or more groups) and non-attenders: GHQ section A scores: (time 1 minus time 3 scores)

Patients with an initial GHQA score of 1 or more were selected for analysis.

Group	Number	Mean	Standard deviation
1. Experimental group attenders	39	3.13	6.38
2. Control group attenders	38	3.39	4.75
3. Non attenders	69	0.78	4.65

K-W: $\chi^2 = 10.19$ $p < 0.01$

ANOVA

f ratio = 4.17 $p < 0.05$

Tests of homogeneity were significant so separate variance estimate is tabled below.

CONTRASTS

T ((1 + 2) with 3)	$t = -2.88$	$p < 0.01$
T (1 with 3)	$t = -2.49$	$p < 0.05$
T (2 with 3)	$t = -2.26$	$p < 0.05$
T (1 with 2)	$t = -0.225$	$p = 0.82$ (N.S.)

Table 33: Difference scores for attenders and non-attenders: GHQ section B scores: (time 1 minus time 3 scores)

Patients with an initial GHQB score of 1 or more were selected for analysis.

Group	Number	Mean	Standard deviation
1. Experimental group attenders	39	5.03	5.16
2. Control group attenders	37	3.59	5.58
3. Non attenders	72	0.75	5.04

K-W: $\chi^2 = 16.98$ $p < 0.001$

ANOVA

f ratio = 9.4 $p < 0.001$

CONTRASTS

T ((1 + 2) with 3)	$t = -4.16$	$p < 0.001$
T (1 with 3)	$t = -2.7$	$p < 0.01$
T (2 with 3)	$t = -4.13$	$p < 0.001$
T (1 with 2)	$t = 1.2$	$p = 0.23$ (N.S.)

5. Did the results of the anxiety and depression subsections of the GHQ, comparing control and experimental group attenders and non-attenders, follow the same pattern as the STAI and BDI results?

5.1 All subjects

Given a longer followup period, the experimental group may have improved to a level better than the control group, or it may be that because the experimental group were more distressed to start with they are showing the most continued improvement as they simply revert towards the mean for the general population. It is unfortunate that there are no BDI scores available for non-attenders to help clarify which alternative explanation is the most accurate. Even though there are no BDI results available for non-attenders, it is possible to compare results for those with similar initial degrees of distress as measured by the GHQ to determine if the results of the experimental group attenders appear to be reverting towards the mean for the untreated population.

Anxiety

The results of the GHQ anxiety subsection of the GHQ shows that those who attended groups (especially the experimental group) were more anxious at the start of the study than those who did not attend groups. Scores decreased over the course of the groups for those who attended groups but there was little change in the non-attenders. By the 6 month followup, patients who attended groups scored at a similar level and the non-attenders rated themselves as the least anxious.

See graph 5 for GHQB results

The results of the STAI confirm the results obtained from the GHQ inasmuch as they show that the experimental group were more anxious than the control group at the start of the study, but on the STAI the experimental group were the least depressed at the 6 month followup.

See graph 6 for STAI results

Depression

Again those who attended groups (especially the experimental group) rated themselves as more depressed on the GHQ than those who did not attend groups and although the depression scores decreased in all the groups, they decreased most, and the final scores were lowest, in those who attended groups. The GHQ section D results indicated that the experimental group's depression scores decreased over the period of the groups then increased marginally over the followup period. The BDI results also showed that the experimental group were more depressed at the start of the groups but unlike the GHQD results their scores decreased steadily over the course of the study and they remained higher than for the control group at 6 month followup.

For the control group the GHQD and BDI scores both indicated that there was a slight increase in score over the 6 month followup period.

See graphs 7 & 8 for BDI and GHQD results

See graph 9 for GHQT (binary) results

5.2 Patients selected with an initial GHQ total (binary) score of 5 or more

Depression

When BDI scores were compared, for patients who attended groups and who were selected for an initial GHQ total (binary) score of 5 or more, it was found that for the experimental group the BDI scores decreased steadily over the period of the study, whereas for the control group there was a slight increase in scores between assessments 2 and 3. The final scores for the experimental and control groups were similar (see table 34).

See graph 10 for BDI results

The GHQ depression section results showed that for the experimental group attenders, the scores decreased during the course of the study. For the control group attenders the scores decreased during the groups but increased to a level higher than for the experimental group at the time of the 6 month followup. These results were dissimilar to the BDI results. At 6 month followup, as for the GHQD results, the experimental attenders had the best outcome, whereas for the BDI the control group attenders had the slightly better outcome. For those who did not attend groups the scores decreased over the course of the study, but did not decrease as much as for those who attended groups.

See graph 11 for GHQD results

Anxiety

The STAI scores showed a greater decrease in scores over the course of the study for the experimental group. The control group's scores did decrease over the period of the groups, then they increased slightly to a level above the experimental group by 6 month followup.

For the anxiety section of the GHQ results, the experimental attenders' group results showed a decrease in scores during the groups and then a slight increase at followup, whereas the control group showed a more marked decrease during the groups and then an increase by 6 month followup. The non-attenders showed a decrease during the period of the study, but the reduction in anxiety was not as great as for those who attended either the control or the experimental groups. Here the results of the STAI and section B of the GHQ show similar trends for the control group but not for the experimental group attenders.

See graphs 12 and 13 for STAI and GHQB results

5.3 Patients selected with an initial GHQ total (binary) score of 4 or less

Depression

For patients who attended groups, who were selected for an initial GHQ total (binary) score of 4 or less, the BDI scores decreased over the course of the study for both the control and the experimental groups, however the experimental group's scores decreased the most and to a lower level (see table 35).

The results for the depression section of the GHQ showed that for experimental group attenders GHQ depression scores decreased during the groups, then increased very slightly by 6 month followup. For the control group attenders, the scores decreased throughout the study but the decrease was not as great as for the experimental group attenders. The BDI results decreased throughout the study for both experimental and control attenders.

For the non-attenders the scores were higher at the start of the study than for the attenders and they decreased slightly over the period of the groups but then increased to higher than the original level by followup.

See graphs 14 and 15 for GHQD and BDI results

Anxiety

STAI scores showed that the control group decreased most over the period of the groups but their scores increased again during the followup period. The scores for the experimental group showed a decrease during the whole course of the study, and the final score was lower than for the control group.

As for the STAI scores, the GHQ anxiety scores showed that for the experimental group attenders anxiety scores decreased during the course of the study. The decrease was greater than the control group attenders. The non-attenders however showed an increase followed by a decrease in scores during the followup period. The score of the

non-attenders was a little higher at followup than either the control or experimental group attenders' scores.

See graphs 16 and 17 for STAI and GHQB results

Summary

A comparison of GHQB and STAI results and GHQD and BDI results shows that the correspondence between the two types of anxiety questionnaires and the two types of depression questionnaires was closest when the results of patients who were selected for having a similar initial GHQT (binary) score at the beginning of the study were compared. The more similar the patients being compared (patients with a GHQT (binary) score of 4 or less, followed by the patients with a GHQT (binary) score of 5 or more) the closer the correspondence between the questionnaires.

When patients who had more similar initial GHQT (binary) scores were selected for comparison, it appeared that those who attended groups did better than those who did not attend groups, and if the non-attenders represent the mean for the untreated population, the results of the attenders, in particular the experimental group, do not appear to be approaching the mean for the untreated population but appear to improve beyond the mean of that population.

Table 34: Comparison of control and experimental attenders and non-attenders over the course of the study, selecting for comparison those with a GHQ total (binary) score of 5 or more at the start of the groups

time of assessment	Experimental group (attended 1 or more sessions)			Control group (attended 1 or more sessions)			Non-attenders		
	Mean	N	S.D.	Mean	N	S.D.	Mean	N	S.D.
GHQT (binary)									
1	12.52	33	6.21	13.3	30	5.23	12.5	35	5.04
2	5.7	32	5.7	3.57	28	5.08	9.97	30	6.46
3	6.56	32	7.9	6.8	25	8.6	8.65	31	8.43
GHQT (simple addition)									
1	39.2	33	14.67	38.9	30	10.41	37.31	35	9.89
2	23.56	32	14.36	19.14	28	11.9	32.0	30	13.1
3	25.2	32	18.06	26.00	25	18.44	28.9	31	17.49
GHQB									
1	12.88	33	4.7	11.77	30	3.84	10.6	35	2.73
2	7.49	33	4.4	5.75	28	4.0	9.73	30	4.63
3	7.69	32	5.19	7.5	26	5.98	8.52	31	5.37

GHQD

1	5.42	33	5.32	5.8	30	4.44	6.89	35	4.62
2	3.0	32	3.98	2.32	28	3.75	5.6	30	5.69
3	2.8	32	4.78	3.68	25	5.06	4.84	31	5.09

STAI

1	51.96	32	9.6	48.8	30	9.49
2	42.17	30	14.4	41.25	28	12.61
3	40.23	31	12.13	42.14	22	14.72

BDI

1	19.25	32	9.64	18.0	30	6.72
2	13.17	30	9.28	9.1	26	6.46
3	10.9	31	8.19	10.1	22	9.66

No significant differences were found between the control and experimental group attenders on the above variables.

Table 35: Comparison of control and experimental attenders and non-attenders over the course of the study, selecting for comparison those with a GHQ total (binary) score of 4 or less at the start of the groups

time of assessment	Experimental group (attended 1 or more sessions)			Control group (attended 1 or more sessions)			Non-attenders		
	Mean	N	S.D.	Mean	N	S.D.	Mean	N	S.D.
GHQT (binary)									
1	2.25	8	1.49	1.600	15	1.35	1.191	47	1.41
2	2.875	8	4.22	2.267	15	3.77	2.658	38	6.11
3	0.143	7	0.38	1.636	11	2.84	2.7	41	5.88
GHQT (simple addition)									
1	19.5	8	5.66	16.667	15	4.56	15.043	47	5.99
2	15.625	8	9.16	16.3	15	7.99	16.34	38	13.26
3	10.00	7	6.46	13.545	11	8.68	15.829	41	13.34
GHQB									
1	5.8	8	2.36	4.47	15	1.64	3.89	47	2.44
2	4.13	8	4.12	4.2	15	3.32	4.37	38	4.67
3	2.71	7	2.69	3.46	11	3.3	3.98	42	4.12
GHQD									
1	1.5	8	1.77	1.4	15	1.5	1.64	47	2.55
2	0.38	8	0.74	1.0	15	1.8	1.55	38	3.45
3	0.43	7	0.79	0.82	11	1.33	1.79	42	4.17

STAI

1	42.87	8	9.23	41.47	15	12.86
2	37.00	8	7.11	33.13	15	9.70
3	30.17	6	7.94	35.0	10	9.01

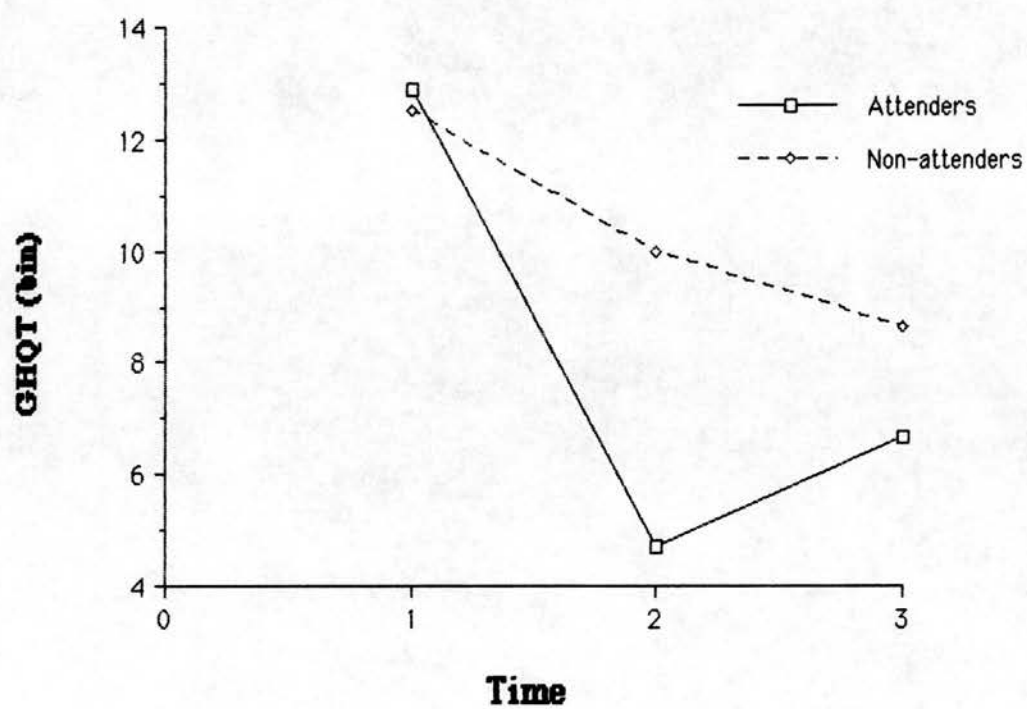
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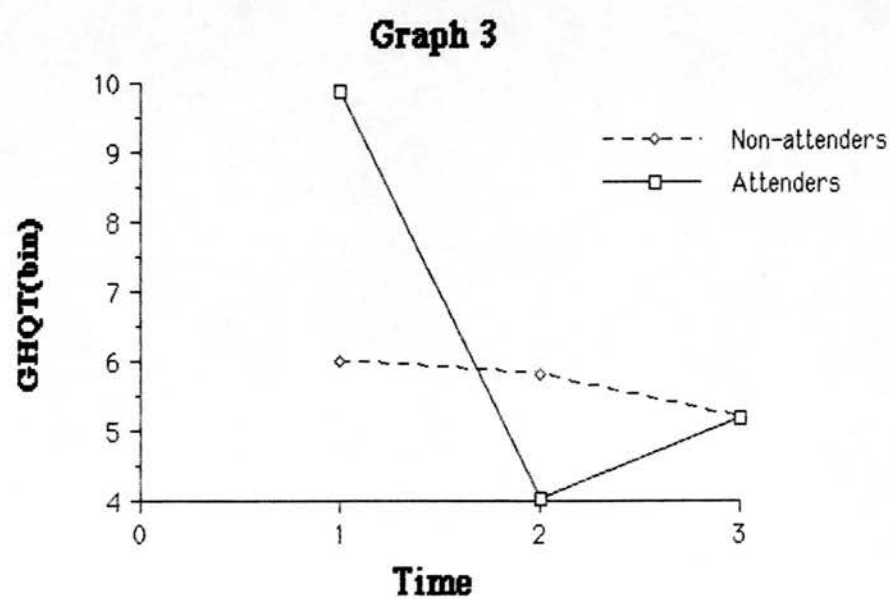
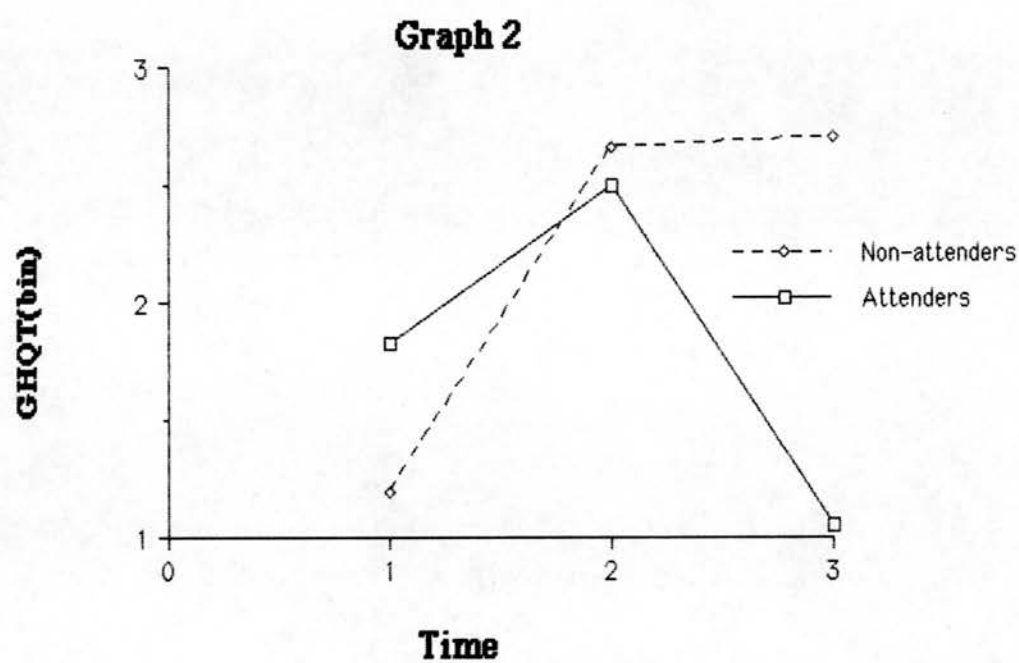
1	9.87	8	7.81	8.0	15	6.15
2	5.25	8	4.77	5.42	14	6.24
3	2.33	6	2.66	2.5	10	3.66

No significant differences were found between the control and experimental group attenders on the above variables.

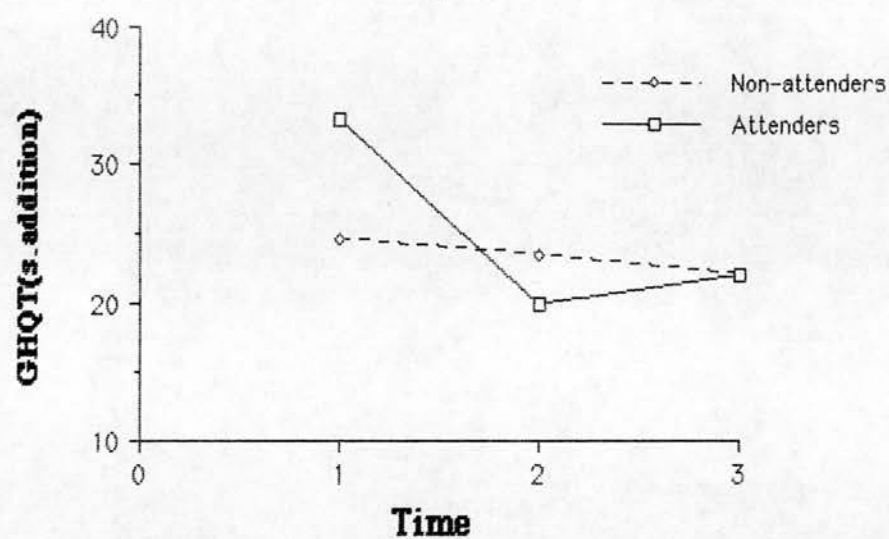
Graphs

Graph 1

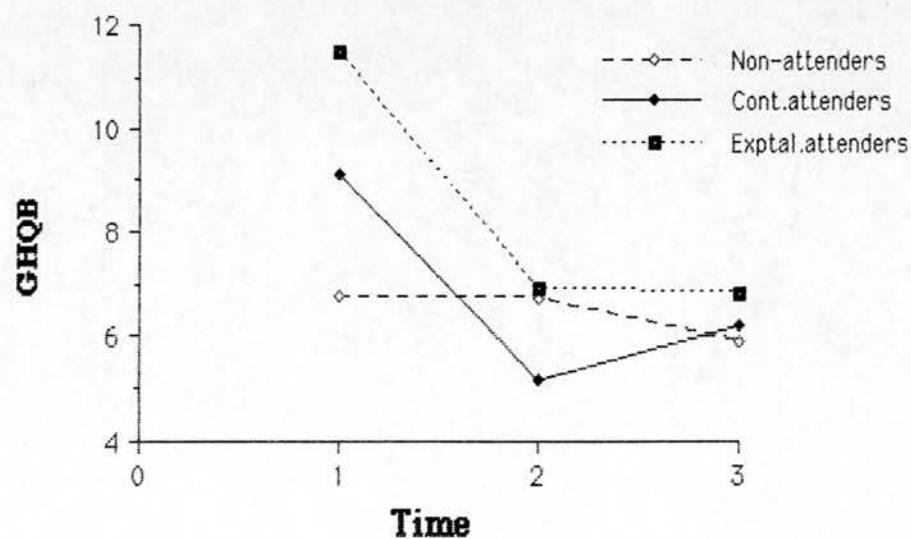




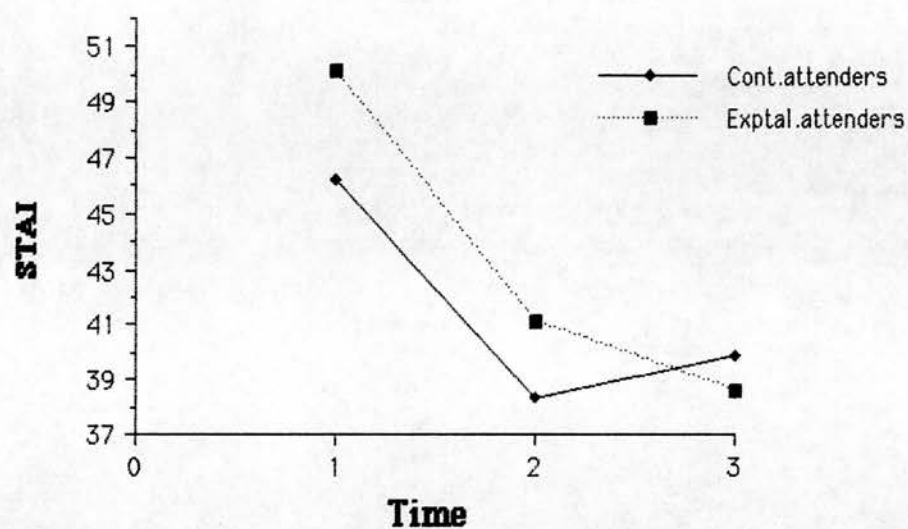
Graph 4



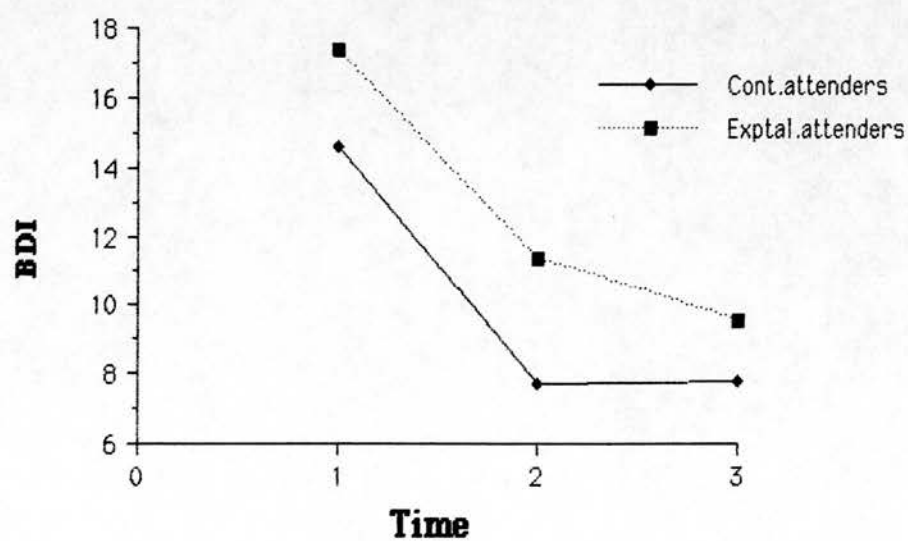
Graph 5



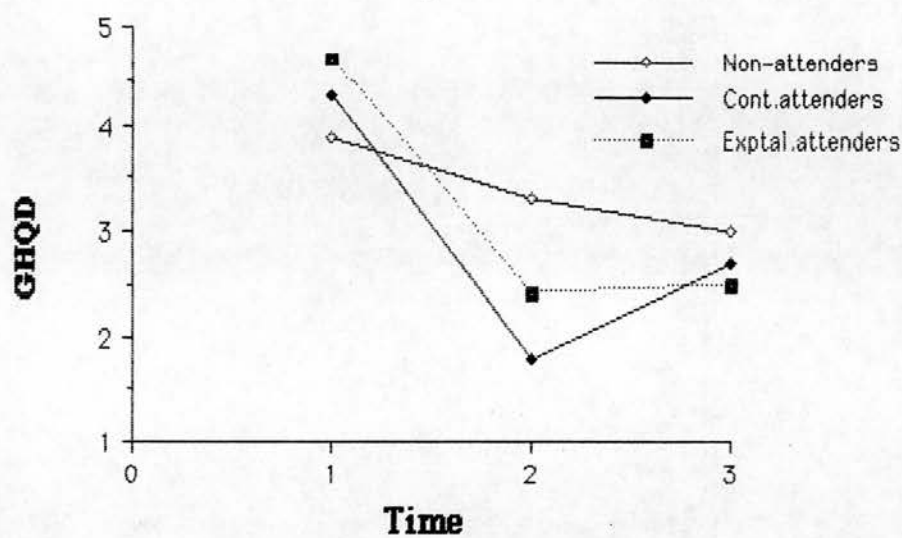
Graph 6



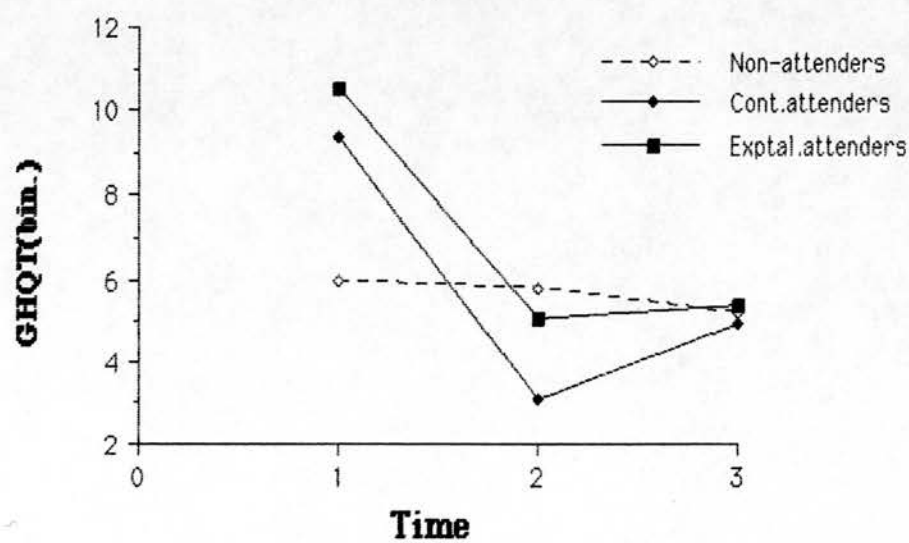
Graph 7



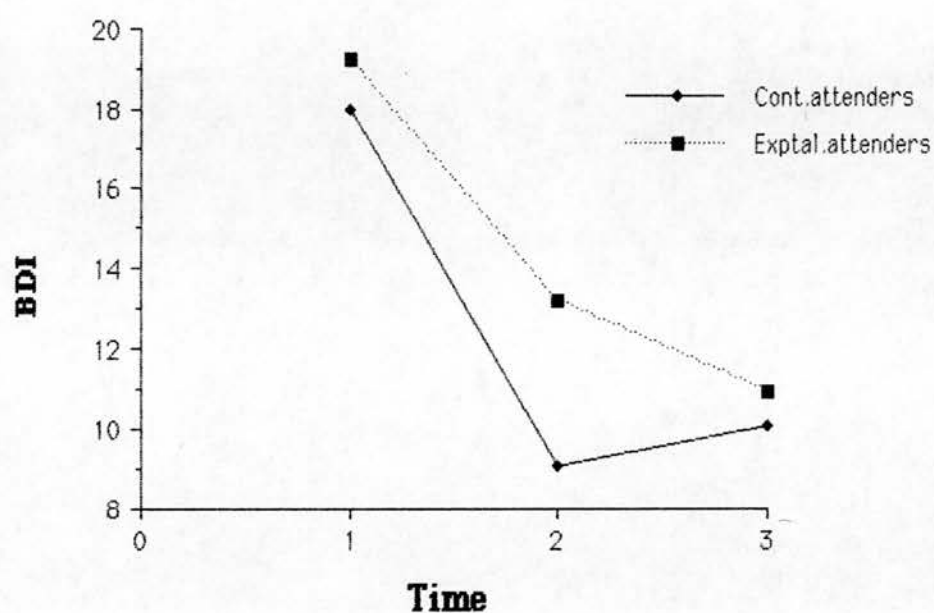
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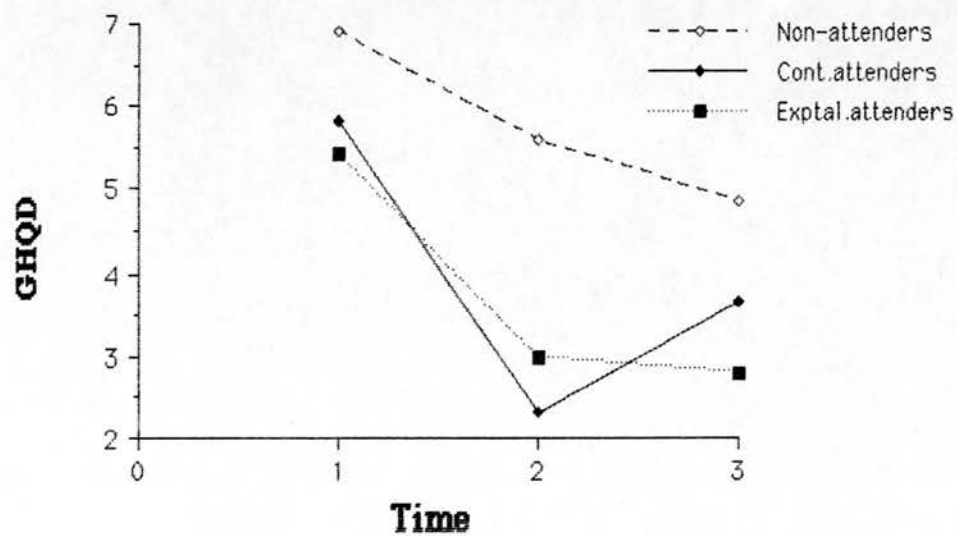
Graph 9



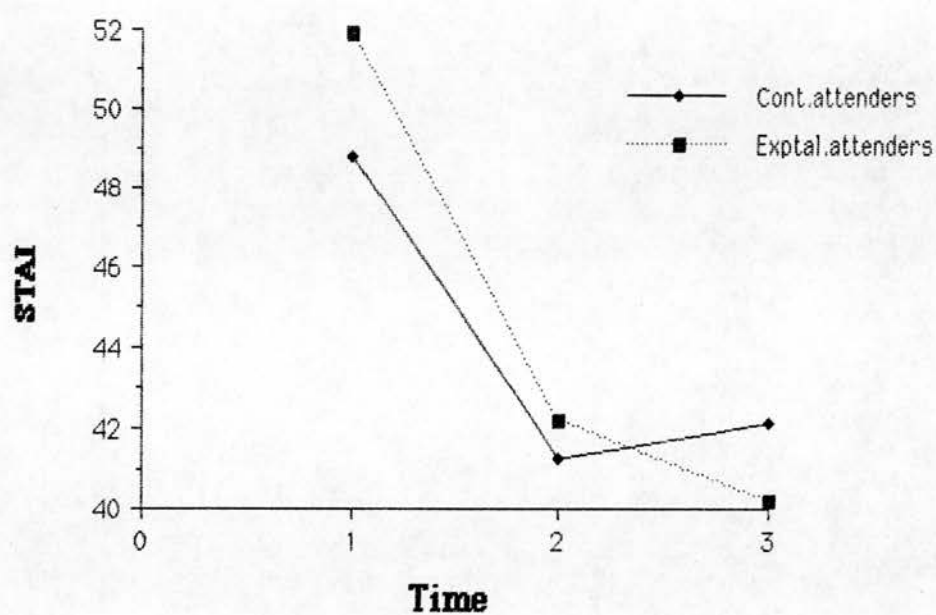
Graph 10



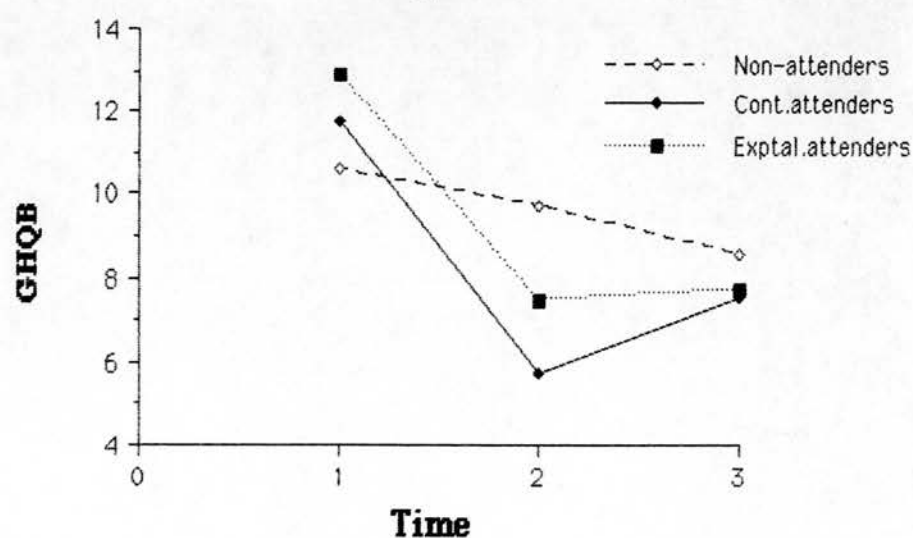
Graph 11



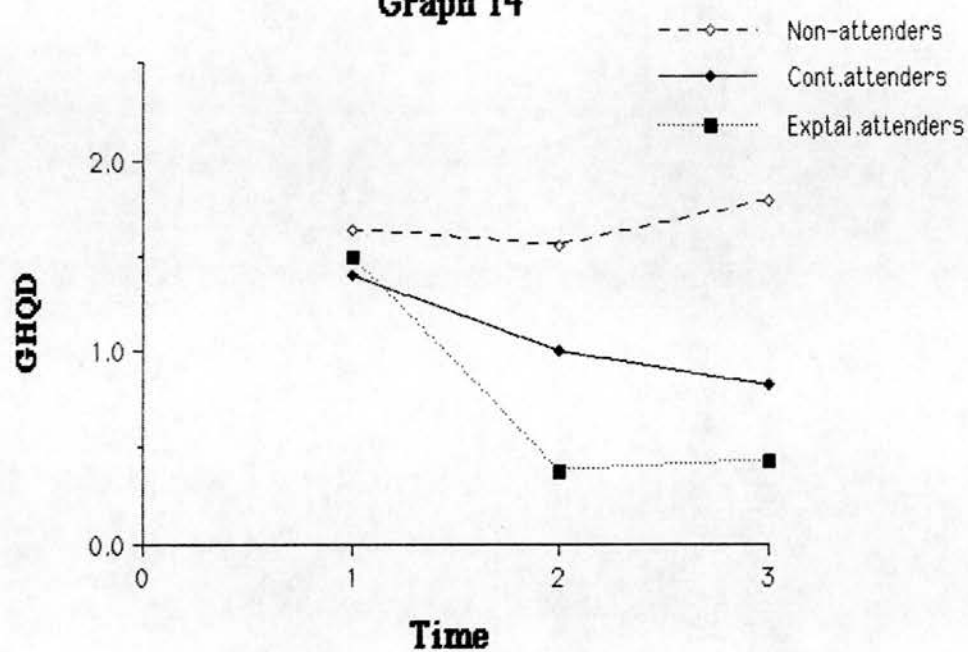
Graph 12



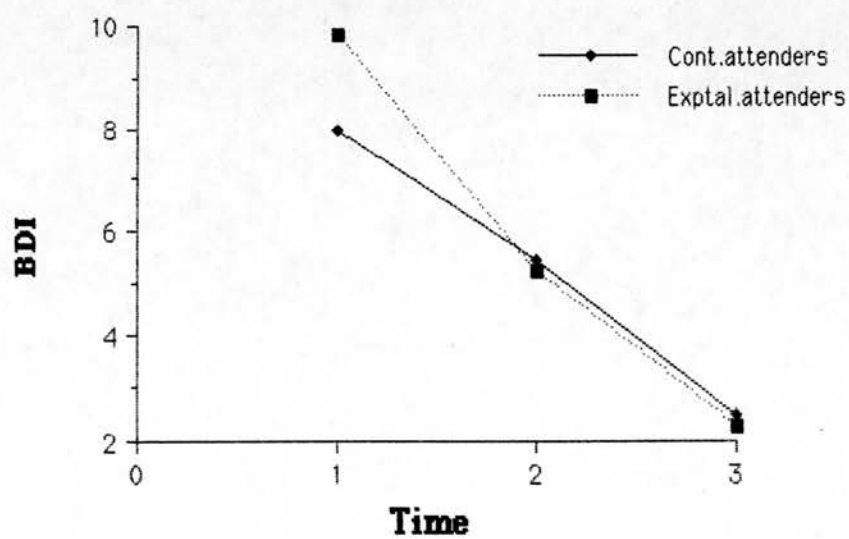
Graph 13



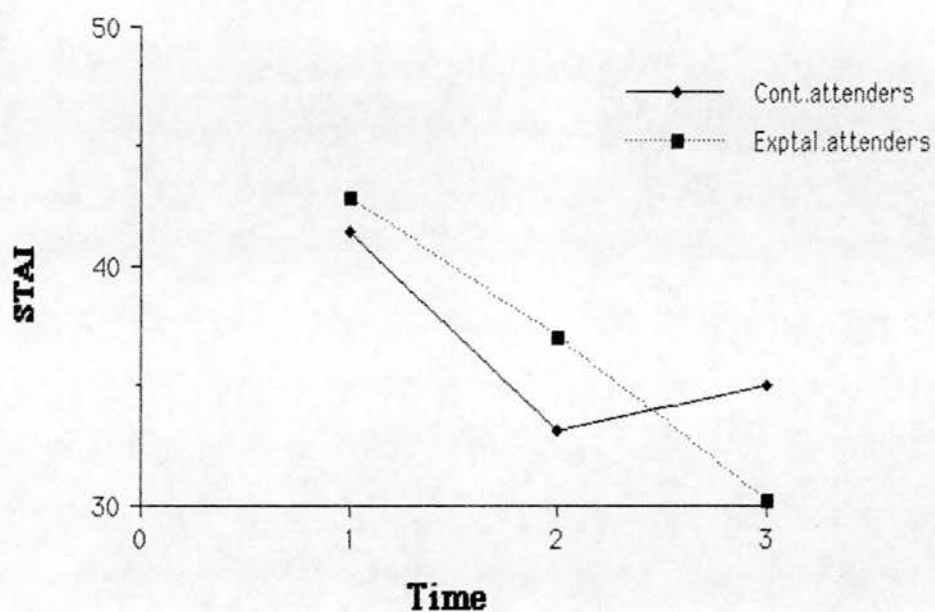
Graph 14



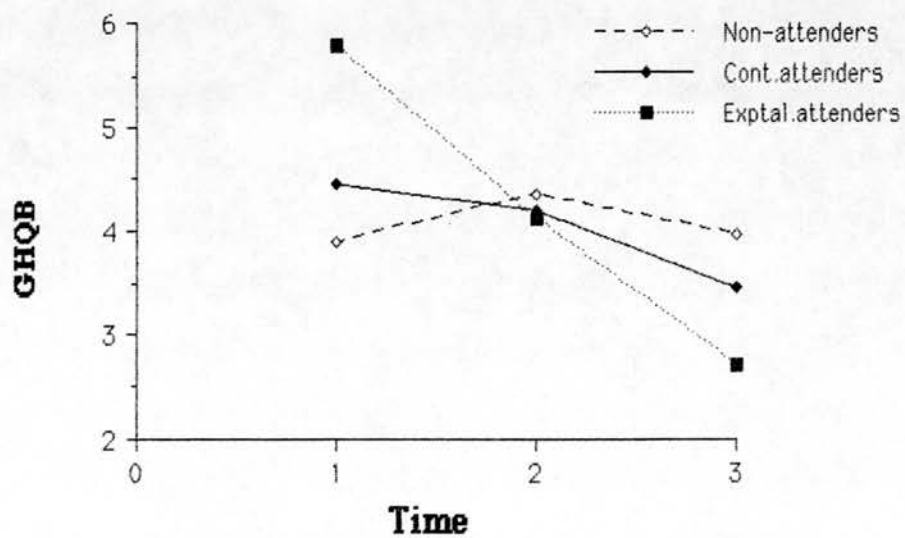
Graph 15



Graph 16



Graph 17



1: Main findings and conclusions

A large number of people (approximately 39.04%) visiting their GP for an ordinary clinic appointment were suffering from anxiety and depression. A proportion of these people said they were interested in attending groups (34.36+%) to increase their coping skills. However there was a marked drop in the numbers who actually attended the groups, and those who did attend appear to have selected themselves to some extent.

Despite the random allocation of patients to experimental and control groups the results of the screening questionnaire for patients allocated to groups showed that more patients in the experimental group stated that they were depressed, whereas more patients in the control group stated that they were both anxious and depressed (see table 13). However by the time the groups started a few weeks later there were no significant differences between the groups on the GHQ28. At the end of the groups and at followup, again there were no significant differences between the control and experimental groups as assessed by the GHQ28 when all patients who completed GHQ's were compared. It appears that some differential self-selection occurred in the two groups when patients decided whether or not they would actually attend groups, and those who did decide to attend groups, especially the PS/DM groups, were the more troubled (see section B1.1).

Comparisons of attenders made at the start of the groups using the standard dependent variables showed that the experimental group were more anxious than the control group, and the control group felt more able to cope at the start of the groups. For those who attended one or more groups, the PS/DM results showed no significant differences in problem solving and decision making ability between the groups as a result of the intervention. There was therefore little evidence to support the main hypothesis of the study that the experimental group would be less anxious and/or depressed, and better able to cope and solve problems than the control group. However when patients who had had a fair exposure to the PS/DM package (those who had attended three or more groups) were compared, it was found that by the end of the groups the experimental group were significantly better problem solvers than the control group. There remained no significant differences between the groups on measures of anxiety and depression at the end of the groups or at followup.

When patients who had attended groups were selected for being more distressed at the start of the groups (ie. GHQ [binary] score of 5 or more) it was found that following the intervention the experimental group were more effective problem solvers and decision makers. However when patients who were not very distressed at the start of the study were selected (GHQ less than or equal to 6) the experimental group were the more distressed group at the start of the study, but they improved more than the control group so that they were not significantly different from the control group by the end of the groups and at followup. By followup the control group patients were rated as producing more effective solutions but this is the more subjective

assessment of problem solving and decision making ability.

There is therefore some indication that those who are distressed can benefit from learning a self-help PS/DM approach. The more distressed people may be more prepared to put in some effort to learning to cope with their difficulties and/or they realise that they have complex problems to deal with and think that this particular approach might be of benefit. If assisted, less able individuals can apply the problem solving and decision making approach to current problems, and perhaps with further training more individuals could use the techniques as a preventative strategy.

When all those who attended groups were compared with those who did not attend groups, attenders were found to be more distressed at the start of the study but were less distressed by the end of the groups. At the followup assessment the results of both groups were similar. When attenders and non-attenders were compared controlling for the initial level of distress, it was found that for those with low initial GHQ scores the attenders were more distressed at the start of the study but improved more, or faster, than the non-attenders. By followup the results of both groups were similar. For those with high initial GHQ scores attenders improved more than the non-attenders both by the end of the groups and at followup. For all those who attended groups there was a significant improvement in GHQ scores over the period of the study but this did not apply to non-attenders. Part of the reason for this might be that the non-attenders were less distressed to start with so could not show as much improvement as the attenders.

It does appear that patients who attended groups selected themselves differentially between the control and experimental conditions, with the experimental group tending to be the most distressed initially. However the experimental group showed the most improvement, particularly with PS/DM ability by the end of the groups and at followup. When those who attended groups were compared with those who did not attend, those who attended groups were more likely to be the more distressed at the start of the study. If initial levels of distress were controlled for, those who had been more distressed initially improved more, or more quickly, than those who did not attend the groups. It appears therefore that being in the experimental group did lead to improved PS/DM abilities but this was not clearly linked to an improvement in anxiety and/or depression ratings. Those who attended either type of group experienced a greater, or more rapid, improvement in anxiety and/or depression ratings than those who did not attend groups. So attending either type of group appears to have been of benefit but PS/DM ability improved most following problem solving training.

2: Reservations and difficulties of interpretation

2.1 Problems encountered whilst setting up and running groups in the current study

Patients appeared to enjoy the relaxation training groups but these groups did not demand very much of the patients. Abstract thinking ability however is required if subjects are to apply the PS/DM steps to new problems. Many patients were unable to think in abstract terms,

indeed several patients were unable to read or write. The exact number unable to read or write was uncertain as most patients tried to hide their difficulties (for example by saying they did not have their reading glasses with them) nevertheless an estimate of six cases was made. It appeared that many patients were only able to use the PS/DM package whilst help was available which limited the usefulness of the package as a preventative intervention.

As noted above there appears to have been some self selection taking place when patients decided if they were going to attend groups. Some patients were put off attending groups by factors such as not wishing to discuss their problems in public and with strangers; they feared that they would not be understood as the groups included women with a wide range of ages; they lacked the confidence to attend groups; or their partners and families did not want the woman to attend. Those who attended the PS/DM groups may have had more, or more troublesome, problems than the control group. Problems talked about included the care of mentally or physically handicapped relatives or dementing parents, and problems resulting from bankruptcy which would continue to have repercussions in the future. These problems are of a chronic nature and cannot be sorted out by making a single decision, they may even worsen in the future regardless of the coping skills employed.

Unlike the experimental group who acknowledged that they had problems the control group may have selected themselves for not wishing to examine their difficulties for fear it made them feel worse. For those in the experimental group who did examine the source

of their difficulties, the groups might have brought to the surface some of their underlying difficulties and concerns and thus made them more anxious and/or depressed for a time.

Amongst those who did attend groups there may have been a differential dropout rate between the two groups. Those who were less able may have dropped out of the experimental groups as they felt they could not do what was required of them. If less able people did drop out of the experimental group there would remain proportionally more less able people in the control group. Those who are less bright may be less quick to learn that their symptoms are due to anxiety and depression rather than other physical causes. The control group may therefore be less inclined to rate their experiences as being due to anxiety and/or depression when they completed the rating scales. Another possibility is that the experimental group because of their training learned to be better at identifying the cause of their problems and realised that they were suffering from anxiety and/or depression. They may therefore have learnt to be more sensitive to and accurate in their ratings of anxiety and depression.

The combination of the experimental group having more or more complicated problems; the control group being less able or less inclined to see their problems as being caused by problems in their life which have resulted in anxiety and/or depression; and the experimental group learning to be better at labeling feelings of anxiety and depression; may go some way to explaining why the overall results of the experimental and control groups were not very different from each other. A lack of ability may have disadvantaged members of

the experimental group so that in effect two relaxation training groups were being compared. The less able members of the experimental group may have got confused by or given up trying to learn the PS/DM approach.

Inconsistent attendance at groups made it hard to provide consistent and effective teaching of the PS/DM approach. Some patients received a hurried explanation of one stage of the PS/DM package in order to catch them up with the rest of the group before moving on to the teaching planned for that particular session. It is possible therefore that many people did not have the opportunity to adequately learn and practise the PS/DM approach and so could not make very effective use of it thereafter. The aim of the individual session was to allow the teaching to be tailored to the individual and to permit more rapport to be established between therapist and patient, but the possibility remains that this was not achieved.

Some attenders did not accept the "self-help" approach and so would not make use of the PS/DM approach unless help was available. However both experimental and control groups could play the relaxation tapes to help calm them. Unless patients accepted the self help approach few differences could be anticipated between the control and experimental groups.

Linked with not accepting the self help approach is the fact that six patients did not do any homework and the 47 who reported they did practice are likely to have overestimated the time spent (Hoelscher et al. 1984). Hoelscher and colleagues also found only objective (and not

subjective) reports of practice time were correlated with effectiveness of relaxation exercises. Although in the present study patients were asked to measure accurately their homework sessions most guessed the time involved. If patients did little or no homework they did not learn to generalise their skills to their lives outside the sessions. So again in effect what was compared were two control groups. It could also be that if the experimental group did have more difficult problems to deal with it was probably more difficult for them to find a suitable time and place to do their home work without being disrupted or ridiculed. Burdett and Milne (1985) discussed the importance of these "setting events" for determining behaviour. The experimental group may in addition have had greater difficulties concentrating upon the homework as they were more anxious and depressed.

There may be times when effective coping involves simply giving up for a time. It is possible that the PS/DM training did not improve anxiety or depression scores very significantly because it did not permit this. A PS/DM approach would however allow a person to decide to choose the option of doing nothing for a time but it would necessitate going through some of the PS/DM steps before making this decision.

In the current study the aim was to alert patients to possible ways of dealing with their problems and so increase their feeling of control over their lives. It may be that this increased stress among some individuals as they realised they could do something about their situation but it might be hard work. Or, looking back they realised they

had made some mistakes, (the consequences of which were still with them – such as a poor marriage), which they could have avoided. Knowing this may have lowered their self esteem and so affected their appraisals of their ability to cope in the future, and increased their vulnerability to anxiety and depression. This was not a problem of the PS/DM approach itself rather a problem caused by the fact that the person had not yet acknowledged the source of their difficulties. The PS/DM approach should be beneficial in helping the person cope with the situation once it has been recognised.

Members of the experimental group who were inhibited about discussing their problems in groups, and who may not have attended the individual session, may never have tackled their most difficult problems and therefore remained troubled.

The next section will consider some of the aspects of the design and evaluation of the study which might help to account for the few differences between the experimental and control groups.

2.2 Design and evaluation of the current study

The number of sessions was limited to six. This number of sessions may not have been sufficient. If individuals had to miss sessions due to illness, baby sitting problems, bad weather and so on, then the sessions were further reduced. This would have affected the experimental group more than the control group as the experimental group had more to learn. Even with less than 6 sessions the control group may have had sufficient time to learn and consolidate their

learning of relaxation exercises whereas the experimental group did not have sufficient time to consolidate their learning of either approach.

Another possibility is that the non specific aspects of the groups and the relaxation training may have been so effective that there was little scope for demonstrating further improvement which resulted from the PS/DM training. Or that over a period of 6 months the majority of problems that give rise to symptoms of anxiety and depression resolve and this could be the main reason why the results of the experimental and control groups were so similar by the time of the followup.

In order to show the effectiveness of the PS/DM training it would be necessary to have additional randomly assigned control groups. One control group would receive PS/DM training alone, and a second group would meet as a group but receive no training in PS/DM or relaxation techniques. It would also be useful to have a control group who received no intervention at all but were on a waiting list. With these control groups it would be possible to separate out the individual contribution of each type of intervention and the non specific effects of meeting regularly in a group. It would also be possible to determine which intervention was the most powerful or brought about the most rapid resolution if participants were assessed frequently during the treatment and followup period. In the present study there was only one experimenter so there were limitations to the number of groups which could be run simultaneously. Also too few patients attended groups to divide them between more than two conditions.

The fact that there was only one experimenter may have introduced a source of bias to the results. It would have been better to use two experimenters in a crossover design so that both experimenters conducted both types of groups so that one experimenter could have less influence upon the results. However if this type of experimenter bias was a factor it would be more likely to result in support for the main hypothesis of the study unless the experimenter was unwittingly being too severe on the experimental group in an effort not to be biased! Alternatively each experimenter could carry out one of the interventions only and the intervention taught would be the one they were most committed to. By doing this their expectations and those of the patients would all be in the same direction, namely that whichever intervention was being taught would be very effective. However Parloff et al. (1978) concluded that congruence of patient and therapist expectations regarding outcome may reduce the dropout rate but not the effectiveness of treatment. Whereas preparation of the patient for psychosocial interventions may improve treatment outcome.

The differential self selection which occurred when patients decided whether or not to attend the groups could be controlled for by not telling the patients before they arrived at the groups which type of group they would be attending. Despite the ethical problems with this, it is likely that more patients would drop out of the groups if this design was used once patients realised they had been allocated to the type of group they did not wish to attend. Some patients had already learned relaxation exercises at antenatal classes for example, and if the class was only going to include relaxation training they did not

wish to attend. The converse was also true. Some patients stated that they did not wish to attend a PS/DM group as, for example, they did not wish to talk about their problems in public. Not telling patients in advance which group they had been allocated to is likely to result in a greater drop out rate from the two groups once they had started. If any differences were found between the two groups they would remain difficult to interpret. For the purposes of this study it was those that actually attended groups who were the main focus of attention so it was more important to keep attrition to a minimum once the groups had commenced.

Generally speaking the more patients included in a study the more reliable the results obtained. The number of patients remaining in this study was relatively small compared with the number screened and found suitable for inclusion in the groups. The lack of many significant differences between the two groups may not be a very reliable finding. Greater numbers of subjects, and therefore more reliable results, might have been obtained if the groups had been held more swiftly after the screening procedure had been carried out. There would then have been less time for problems to resolve spontaneously and for patients to decide that there was no need for them to attend groups. With larger numbers of subjects and more reliable results clearer differences between the two groups might emerge.

In order that people may benefit from a PS/DM approach they need to learn the approach, so if factors which affect this learning can be identified it might help researchers to alter aspects of the person or situation which would then allow the person to benefit maximally

from the PS/DM program. One factor which appears to be important is the person's self-appraisal of their effectiveness as a problem solver (Heppner et al 1983). If the person believes or expects that problems cannot be solved or that they cannot do anything about the situation, then they are not willing to expend much effort on examining the situation and using a PS/DM approach. This links in with the work on LOC (Rotter 1966) where individuals with an external LOC are unlikely to make an effort to alter their situation as they do not believe they can influence events.

People may also be reluctant to make decisions because of the irrational beliefs that they hold. Heppner et al (1982) examined differences between students who perceive themselves as good and bad problem solvers. They found that in addition to differences in cognitions (ie. attributions and expectations), there were differences in behaviours. For example self rated good problem solvers used fewer drugs and reported greater learning from observing others. Affect was also different between the two groups, the better problem solvers had greater motivation in relation to sorting out problems, they rated themselves as more intuitive and systematic, and less impulsive than the self perceived poor problem solvers. The type of problem being solved appeared to affect the problem solving process. "Poor" problem solvers reported that they had greater difficulty with intra personal problems such as study problems, being overweight, and low self concept, and they were less likely to be trusting in interpersonal relationships. All these factors could affect the learning and use made of an effective, task orientated approach to problem solving.

One way to deal with these problems may be to start by tackling problems or decisions that the patient believes he can influence. Once they have successfully applied the approach they may have more confidence in their ability to use it with more difficult problems. The use of examples from similar sceptical people may help promote a more problem orientated approach. Spending time alerting people to their irrational beliefs before starting PS/DM training should also be of benefit.

Care should perhaps be taken to match subjects in the experimental and control groups on their levels of skill and behavioural competence before starting the intervention, as suggested by Zenmore and Dell (1983). Patients starting with very different levels of social and other skills have a very different basis upon which to build and later generalise their skills. It was hoped that this was controlled for in the present study by randomly allocating patients to control and experimental groups. However the differential attendance and dropout rates from the two groups may have affected the type of people who stayed in the 2 groups. The groups may have started off with different levels of skill and a different proneness to psychological morbidity as a consequence. Nevertheless there were no significant differences on GHQ scores at the start of the intervention for those who attended groups.

Handy (1988) suggested that some stress reduction programmes may only treat the surface problem and this may result in a worsening of the underlying problem which caused the problem in the first place. This point may be of relevance to the present study.

Duckworth's package encourages the individual, by means of the Scheme of Questions, to get at fundamental desires and wishes, and then find a variety of ways of achieving them. However most people used the PS/DM approach in a limited manner to deal with more superficial problems. By dealing with a superficial problem the individual might be making an unrealised fundamental problem worse. For example, if the fundamental problem was that a woman wanted to feel valued and loved, and she dealt with the superficial problem of wanting to decrease the number of arguments with her husband by spending more time away from home, she might end by making the fundamental problem worse as she spends more time alone and feeling under valued. By dealing with the superficial problem the woman is likely to restrict herself to thinking of ways to avoid arguments with her husband (eg. avoid certain topics of conversation, avoid spending money etc.). All strategies which constrain the woman's behaviour and are likely to add to her discomfort. If the woman had clarified the fundamental problem she could then think of all the possible ways in which she could build up a sense of being valued and loved. Many of her ideas could be independent of her husband. Getting to the core of the problem would make it easier to define other avenues that could be tried (she could for example volunteer her services to a helping organisation, spend more time helping her friends and allowing them to help her, get a job and so on). So some individuals, who did not manage to deal with their problems in depth, may have dealt with problems in a superficial manner and so made matters worse. This could have resulted in the experimental group doing less well than they might and there being few appreciable differences between control and experimental groups.

In the current study it was hoped to gain some estimation of IQ from the patient's educational attainments. However this proved unhelpful in this study as few women had sat examinations or had tried to do any sort of training requiring qualifications. The less academically able had great difficulty understanding the principles of problem solving and could not apply them to novel situations although they could follow an example worked upon with the aid of the experimenter. Questionnaires were read out and the patient's verbal answer recorded verbatim by the experimenter to get over poor reading and writing skills. Nevertheless intellectual ability would appear to be an important factor in applying a generic problem solving approach without the aid of a counsellor. Merrifield et al (1962) discussed evidence that problem solving is not a unitary ability but is made up of a number of factors which make up the intellect.

The Ways of Coping Checklist used to assess coping behaviour was found to be a difficult instrument to use as it was a) very long and patients were reluctant to complete every item, b) patients experienced different stressful events in the followup 6 months so the coping behaviours used were likely to be very different. Unless there were large numbers of subjects who attended groups and who completed the Checklist, comparisons between the control and experimental groups would be of limited value. In fact the results of the Checklist were not analysed because few subjects completed the Checklist satisfactorily. Also when the experimenter and a colleague tried to identify which items were problem solving items and which were emotion focused items on the Checklist they differed on the classification of 14 items. After further examination and discussion 6

items still could not be agreed upon. Susan Folkman was contacted in order to clarify the situation (personal communication August 1987) and she indicated that the problem focused and emotion focused scales cited in the 1980 paper were no longer used as these two scales did not describe coping sensitively or comprehensively enough. Agreement between raters as to which items belonged to each scale was poor. Following a factor analysis she and her colleagues considered that eight scales could be derived from the Checklist which were labeled: planful problem solving scale; cognitive problem focused coping; confrontive coping scale (active problem focused coping); seeking social support scale (combines informational and emotional support and is a combination of both problem focused and emotion focused items); and the remaining four scales are primarily emotion focused. Problem solving behaviour continued to be regarded as an important part of coping behaviour but the scales used to measure it had been redefined. It was unfortunate that these scales could not be examined in detail in the present study.

Another of the problems with the use of the Ways of Coping Checklist is that it is a self rating scale where the individual is asked to record how s/he behaved during the stressful episode. This might be difficult to do accurately so it would be best if such a self report scale was used together with some observational measure, the answers can then be compared.

In the above sections reasons for there being few differences between the control and experimental groups which could be attributed to the way the interventions were designed and evaluated, and the way

the groups were carried out, were examined. Further design factors which could have resulted in few differences being detected between the control and experimental groups could have been due to the assessment measures used in this study. It is possible that other variables should have been assessed and would have resulted in clearer differences being demonstrated between the two groups. These variables will be mentioned in the next section.

2.3 Should other variables have been assessed?

Had there been no limitations upon the number of questionnaires and assessments that the patients could have reasonably been asked to complete, there were additional assessments that it would have been of interest to include and which future studies may be able to incorporate. The areas of interest are interlinked to a large extent and include assessments of a sense of personal control or LOC, appraisal of situations and coping abilities; self esteem and social support; and the characteristics of life events.

Parkes (1984) carried out a study using British women. Her study followed on from the finding of Folkman and Lazarus (1980), previously mentioned, that found over a period of one year subjects who perceived themselves as having some control tended to use more problem focused coping, but when they thought they had little control they used more emotion focused coping. Parkes studied female nurses using the Ways of Coping Checklist. She found that internal LOC nurses perceived stressful situations differently to external LOC nurses. Internals showed potentially more adaptive appraisals. This study only

examined one stressful episode taken from the work situation, so conclusions cannot be drawn about the stability of coping behaviours over a variety of different episodes. Also, the information was gathered from self reports. These reports may have been influenced by how the nurses viewed the situation in retrospect and by the observations they made of their own behaviour. Parkes herself stated that "the perceived importance of a particular episode, and the way it is appraised, change over time; and these changes in perceptions would be expected to both influence and reflect the nature of the strategies used at different stages of the episode."

However from this study there appears to be an association between perceived control and the type of coping strategies used, in particular problem solving and decision making coping strategies. Appraisal of future similar situations then influenced how the first situation was dealt with. Teaching people to manage situations better should result in a change in perceived control and appraisal of future situations, and this in turn will result in more efforts being made by the individual to manage the situation more effectively.

Had LOC been assessed in the current study it would have been possible to determine if the teaching of problem solving and decision making skills was more effective for those with an internal LOC, and led to individuals becoming more internal LOC. It could also be determined if an internal LOC was associated with greater use of PS/DM behaviour, and if a more internal LOC was associated with reduced levels of anxiety and/or depression.

Duckworth (1983) using the same PS/DM package as used in the current study found that indeed teaching problem solving and decision making skills was associated with an increase in internal locus of control. This is the result that might be expected as skills are taught which alert the person to the options that they have available to them and encourage them to make their own decisions. Both these behaviours alert the person to the control they could have and the decisions that they could make in a given situation. However this study was carried out with university students who were reasonably intelligent and more able to think in abstract terms than members of the general population. They were perhaps more capable of learning and applying the principles of PS/DM and so might be expected to develop a more internal LOC than the majority of individuals in the present study. Indeed patients who felt unable to use the PS/DM approach in the present study might have developed a more external LOC as this was yet another aspect of their lives which they were not able to do very much about.

How a stressor is appraised and responded to appears to be affected by the individual's sense of personal control, or LOC. LOC is clearly related to the individual's sense of self esteem, and self esteem is affected by, and affects, social support.

Social support appears to have an important influence upon coping behaviour. Miller and Ingham (1976) in their study of women obtained from a general practice population found that a lack of social support was associated with increased psychological and physical symptoms. Social support was also found to protect against further depressive

breakdowns (Surtees 1980). Caplan (1981) suggested that social support was necessary to compensate for a decreased capacity to solve problems which was induced by stress. Further work (Ingham et al 1986) indicated that anxiety and depression, and biographical factors, affect self esteem (self appraisal); and self esteem is linked with social support. Social support serves a protective function against depression following a life event (Brown et al 1986).

In the current study no proper assessment of social support was made. Patients were only asked about their marital status. Although more of the women in the experimental group were married this may simply have been because they were older. Marriage per se does not mean that the individual experiences more social support, it would be important to ask the individual themselves about their own perceptions of the support available to them. It is possible that those who had more supports available to them were more able to attend groups and make use of the skills taught, particularly the PS/DM skills which required more effort and perhaps more help and cooperation from others to put into practice.

The nature of the life events experienced by patients were not examined in any detail in the present study. There is evidence however that features of the life events themselves may influence the response to the life event. Miller et al (1976) found that threatening life events were strongly related to the severity of psychological but not physical symptoms, and more severe life events (eg. those which involved both chance of action and loss) led to more severe symptoms such as depression (Ingham and Miller 1985). Factors associated with longer

illness were stressors with an uncertain outcome and poor social support (Miller et al 1987). Features of the stressors experienced by patients in the present study may have been an important factor which influenced who did well during the course of the study. Certainly many patients who decided not to attend groups did not feel the need to attend the groups as the stressor was expected to be of short duration and they felt able to cope with this. Although the current study was designed to teach PS/DM strategies to patients to emphasise to the individual the variety of responses they could have to any situation, the nature of the stressor may be an important factor in determining the coping skills used, perhaps more salient than the coping skills the person had available to them.

The study would have been enhanced by the inclusion of physiological measures of stress. These could have included, for example, measures of heart rate and skin conductance (eg. Riley and Furedy 1985) in order to more objectively assess the impact of the two interventions. So it can be seen that additional variables such as LOC, appraisal of coping and problem solving abilities, social support, and physiological measures of anxiety, could all be assessed as they might reasonably be expected to be factors which influence the ability of patients to make use of the interventions used in the current study.

3 Comparisons with other studies

3.1 Difficulties of outcome studies

There have been many outcome studies carried out in the last few

years most of which have found few differences between groups treated with different types of therapy. Given this frequent finding the question has been asked are all therapies equivalent? Or could it be that researchers have not assessed the right variables that will demonstrate the differences between the therapies? Studies relating to these questions will be briefly mentioned below.

Compliance is an important factor in psychotherapy outcome studies because if subjects do not attend and adhere to the instructions given during therapy patients are unlikely to benefit from treatment. The randomisation procedures might be affected by differential dropout so that the accuracy of any assessments of the results of the treatment will be affected, and the reliability of the finding will be reduced due to the reduced numbers of subjects remaining in the study. So factors which influence compliance and help researchers to predict poor compliance need to be identified so that these factors can be taken into account when setting up treatment programs.

Baekeland and Lundwall (1975) in their review identified several areas that were associated with adults dropping out of treatment. These included a) clinical factors eg. low levels of anxiety and depression, paranoid symptoms, sociopathic features, b) psychological factors eg. poor motivation and not being psychologically minded, c) environmental factors eg. support in the community, socioeconomic status, and life events, d) therapist variables, such as positive or negative attitudes towards the patient and his/her problem.

More recently Pugh (1983) found that poor compliance in depressed

patients was associated with hostility as measured by the Hostility and Direction of Hostility Questionnaire. This trial compared two different antidepressant drug treatments in a double blind trial. Self reports of compliance behaviour were cross checked against urinalysis and pill counts. So compliance with treatment in this study could be fairly accurately assessed. Type and severity of depression was not found to be an important factor in compliance.

Cross and Warren (1984) examined environmental factors which were associated with those who continued with or dropped out of treatment. Those who continued in treatment were more likely to have people outside the treatment setting with whom they could discuss their problems. This finding was replicated using a smaller number of patients. It suggests that informal support may play a part in therapy attendance. There are no significant differences between the continuers and terminators on measures of life adjustment which might have been thought to be influential in helping an individual behave in an organised manner and keep appointments etc. and which might also be associated with their ability to make and keep confidants. The patients in the above studies were described as a mixed group of patients treated in a psychoanalytically orientated outpatient department. This study would be improved by more clearly defining the types of problems the patients had as it may be that the effects of informal support differ according to diagnosis. As noted above hostility was thought to be of particular relevance to patients suffering from depression.

Cross and Warren did find that practical difficulties were

significant factors in determining who continued with treatment. Simons et al (1984) also found that practical difficulties were the most important factors contributing to a patient's decision to drop out of treatment. Simons et al did not find any differences between completers and dropouts on any variables assessed before treatment. What they did find was that patients who received a single treatment were more likely to drop out of treatment than those receiving a combination of treatments where even if they did not like one form of treatment they might gain something from the other. Many patients dropped out of the medication condition due to the side effects of treatment. Despite several inducements, such as funds being made available to parents to help them make child care arrangements and the clinic fee being adjusted to the family's income, the majority of patients in the study indicated that they dropped out of treatment due to a variety of practical difficulties which appeared to be very specific to the individual. The apparent individuality of the reasons given makes it less likely that the subjects were simply ticking this option on the questionnaire as an easy option or an excuse for not attending.

A similar intolerance of medication side effects was found by Last et al (1985) in a group of female patients with depression. Dropouts from the pharmacotherapy condition tended to be only mildly depressed and disliked the side effects of treatment, whereas those who dropped out of the social skills training conditions were dissatisfied with the lack of a rapid response to treatment, they also tended to be more severely depressed. Some patients, as in the Simons et al 1984 study, withdrew from treatment before the first

medication clinic visit and it seems likely that these people, who knew about the psychosocial treatments also being used in the study, were disappointed not to be involved in the psychosocial or cognitive interventions.

The Last et al. study found an interaction between patient severity and treatment modality which resulted in a differential dropout from psychosocial and pharmacological treatments. The authors based their results on findings achieved by combining groups of patients so that patients who received some form of psychosocial treatment were compared with those receiving amitriptyline (alone or in combination with psychosocial treatment). So the larger number of subjects in the groups may make the findings of this study more reliable than studies using smaller numbers of subjects but it should be kept in mind that by doing a large number of post hoc analyses there is an increased possibility of finding "chance" significant results.

Depressed women were again studied by Rabin et al. (1985). These women community volunteers were invited to join a group therapy program teaching self control skills. It was found that compared with those who continued in treatment those who refused treatment were more likely to have become rapidly depressed as a response to a particular event and they were of lower socioeconomic status. This may be similar to what was found in the current study as some patients screened at the health centres and who complained of anxiety and/or depression did not wish to attend groups because they felt life was too disorganised to be able to cope with additional commitments, or they saw their problems as being due to a situational event which

they could see resolving in the near future.

In a further study carried out in a health centre (Kowalski 1985) a GP identified patients who had physical symptoms which were thought to be influenced by psychological factors. These patients were invited to attend an assessment interview. The initial interview was thought to be sufficient by some, others did not take up the offer of further appointments. Others attended therapy until the patient and therapist were satisfied that improvement had occurred. Some 88.5% of patients (26 people) accepted the initial appointment by letter but only 66.7% (20 people) actually attended the interview. The characteristics of those who accepted and refused help were examined. Those who dropped out of treatment had more depressive symptoms than regular attenders, they also had a low GP consultation rate in the year before the intervention. Kowalski suggested that patients who had not suffered from psychosomatic symptoms for very long were still looking for a solution to their problems. They were frequent GP attenders and were willing to try out the behavioural intervention. There was a second group who had suffered more chronic problems and these people consulted their GP's less frequently possibly because they thought nothing could be done and they had developed a negative view of themselves and their environment. These people showed little motivation to try out the behavioural approach. Kowalski suggested that these factors should be taken into account when planning intervention programmes for patients in a health centre setting. The numbers in this study were small (30 patients) and the findings need to be replicated with larger numbers before firm conclusions can be drawn.

It appears from the above studies that there were many factors which influence compliance, and the results are suggestive of an interaction between degree of distress and treatment method employed. Patients who are very depressed frequently refuse treatment, perhaps because they think it is pointless or they are in too much of a crisis to attend for treatment, but patients who are only mildly depressed may not tolerate the side effects of medication. Those who complete treatment tend to be the better educated and are those for whom expectations of treatment, and what actually happens in treatment, coincide. They also tend to be of higher socio economic status, and have informal support in the community. These very factors may help these people get over some of the practical difficulties that make attendance difficult. The attributes of those who drop out of treatment appear to be closely tied to the disorder the patient suffers from and the type of treatment offered. More work needs to be done to better identify what causes people to refuse or drop out of treatment for a variety of psychological disorders, and to determine what can be done to overcome these problems.

3.2 Are all psychotherapies equivalent?

A number of reviews in the literature examining outcomes of psychotherapies have concluded that despite a wide variety of therapies being used the outcome of the different therapies were very similar (eg. Smith and Glass 1977, Luborsky, Singer and Luborsky 1975). Others suggest that well conducted studies favour the results of behavioural interventions (eg. Eysenck 1978), or that the findings of outcome studies have been mixed. The same studies have been praised

or criticised on substantive and/or methodological grounds, and have been cited as supporting different conclusions (Glass, McGaw and Smith 1981).

More recently Shapiro and Shapiro (1982, 1983) conducted a meta analysis of 143 outcome studies. They included in their analysis studies which contained a comparison of two treatments and a control group in order to put into their analysis only the better designed studies. Although there were indications that cognitive and multimodal behavioural approaches produced favourable results the quality of the results that comprised the analysis was criticised, as was their representativeness for clinical practice. In the main the studies were conducted on subclinical populations who did not suffer from generalised anxiety and depression but had more focused problems such as social anxiety. The reasons for the choices made by researchers when planning such studies were discussed.

Other more recent papers have also discussed the apparent equivalence of different psychotherapies and considered what might be done to clarify questions such as a) if the therapies really are different, b) if the different types of therapies produce similar results because they include the same or similar active ingredients, or make use of the same therapeutic processes, c) if the outcomes appear similar because the therapists have not found measures sensitive enough to demonstrate change, and/or d) if the therapists are not assessing the variables that will show that change has taken place. (See for example Jacobson et al 1984, Stiles et al 1986, Kazdin 1986, Elkin et al 1988, Shapiro 1988). The current study then appears to be

very similar to many other treatment studies that have found almost equivalent outcomes for different types of therapy. More tightly controlled studies, using carefully matched subjects or an in depth single case design, are needed to clarify the situation and to identify how particular individuals might respond to specific treatments.

In the occupational literature there are now more studies examining stress management programmes which have more of a preventative focus but these studies have the same problems as clinical studies (see Murphy 1984).

Suggestions for improvements to treatment outcome studies that would help to clarify why many treatment studies have produced similar results, and which were used in the current study, have included: the use of manuals to ensure that a standard treatment is delivered; tape recordings of sessions to ensure that the correct treatment is adhered to; limiting the treatment to as few elements as possible to help determine which particular aspects of treatment are beneficial; adding one therapy to another and comparing this with each therapy alone to determine if the additional therapy had an incremental beneficial effect; and the use of multimodal assessments of therapy including some process measures. Process measures that have been used in studies of therapy have included such things as: the MEPS, the nature of attributions (global/specific, controllable/uncontrollable) (Firth-Cozens and Brewin 1988) and client's response mode ie. how much time the client spends making self disclosures (Stiles et al 1988).

Further suggestions for improvements included the use of physiological measures of stress as they provide more objective measures which are less vulnerable to the "demand" characteristics of the situation such as the therapist expecting the patient to report some improvement. Measures that are of clinical significance also need to be developed. This could mean for example training clients up to a point where they reached a particular behavioural criterion. A further point was that if a clinically useful size of an effect is taken as a third of a standard deviation unit, then in the region of 150 subjects in each group would be needed in order to detect the effect depending upon the significance and power levels adopted (eg. Bourke et al. 1985). Unfortunately most researchers conducting treatment studies would find it very difficult for practical and financial reasons to gather together groups of such a size. However multicentre collaborative projects may help to increase the number of subjects which can be included in such studies.

Where a group outcome study would be inappropriate or difficult to achieve because of the lack of suitable subjects, more methods of assessing change, which are tailored to the individual, need to be developed. One such method is Goal Attainment Scaling (GAS) (Kiresuk and Sherman 1968). Using this method a patient is asked to set themselves a goal. A scale is then devised with a graded series of likely outcomes which range from least to most favourable outcome. Each point on the scale is clearly specified so that an observer can assess at which point the patient is functioning at a given time. The results can be transformed into a standardized score. Each patient is assessed using the same scales but the measures are tailored to each

individual. The difficulties of such an approach are that specifying objective goals can be difficult and the goals can be written at different levels of abstraction. Also, the amount of change required to move from one point on the scale to the next may not be the same for all patients.

It is a possibility that different therapies have similar outcomes because they use similar mechanisms of change. They may work for example by increasing the patients' feelings of self control. Another, or additional, possibility is that there are features of the way therapists behave that are similar across therapies (eg. they show warmth and empathy) and these factors may contribute to the similar effectiveness of different types of therapies. Bergin and Lambert (1978) concluded that therapist factors were probably more important than the type of therapy used, the nonspecific or placebo effects of therapy, and client characteristics, in predicting outcome of treatment.

Given the difficulties of getting people to attend and continue attending sessions, assessing clinically significant change, determining which parts of an intervention are most effective, and determining which people benefit from which intervention, is it worthwhile trying to carry out further preventative interventions?

This study showed that although many people did not attend some people did attend and benefited from the intervention. It may be of greater benefit if individuals do not have to specially put themselves forward to participate in a preventative intervention but are exposed

to an intervention as part of their ordinary lives. Ways of achieving this more cost effectively are discussed below. Alternatively, those who are interested in an intervention could be allowed to select themselves.

It does appear to be worthwhile to determine which types of interventions and therapists suit which clients, and at what point in a person's life an intervention would be most beneficial. Better methods of assessing change also need to be developed.

4 Future work

Having tried to teach a very broad group of people coping skills and encountered the difficulties noted earlier, several questions now arise: is it possible to target preventative interventions more effectively so that better use can be made of the intervention? Can vulnerable people be identified?

4.1 Vulnerability factors

Factors which might lead to an increase in vulnerability which were of more direct relevance to the current study were mentioned earlier in the chapter on stress and coping. These factors which may cause individuals to be vulnerable to anxiety and depression will not be discussed again here. It will be remembered that the factors in question were such things as: the characteristics of life events themselves; the way the individual appraises the situation and his/her ability to cope; the particular methods of coping that the individual

used, and the learned helplessness model of depression. Other factors which may also be associated with increased vulnerability will be briefly mentioned below.

4.1.1 Sex

Jenkins and Shepherd (1983) in their review of depression in general practice suggested that the greater numbers of women with minor psychiatric morbidity may be due to environmental factors. However illness behaviour is also of importance as women are more likely to seek help for minor complaints of any type (Shepherd et al 1966). Men on the other hand are less likely to think they are psychiatrically ill and are less likely to talk about their feelings (Horwitz 1977).

Jenkins (1985) suggested that the traditional roles of women as caretakers and mothers means that women are commonly exposed to situations that increase the risk of psychiatric morbidity, or reduce their access to sources of support. Other possibilities are that women are raised in a way that results in their developing a low self esteem or a greater vulnerability to depression. Hormonal factors may also predispose women to depression. Nevertheless when Jenkins (1985) compared homogeneous groups of men and women matched for age, education, occupation and social environment, there was no difference in psychiatric morbidity or its outcome between men and women, so it appears unlikely that constitutional factors contribute to the sex differences in reported psychiatric morbidity.

It could be argued that this study employed a group of women who were not typical of women in general. However recruitment to the grade of Executive Officer, the professional group used in the study, appears to be equal for the two sexes and does not involve selecting exceptional people.

Blacker and Clare (1987) in their review concluded that men and women may express depression in different ways with women more likely to talk about their feelings and men more likely to express it through violence and substance abuse. When the results of two further studies were considered which encompassed a wider view of psychiatric disturbance which may be linked to depression (eg. alcohol abuse), there was some indication that rates of expression for men and women may be similar (Robins et al 1984, Casey et al 1984). Gender itself may not make an individual more vulnerable but the effects of social conditioning may make it more likely that women find themselves in situations that make them more vulnerable to affective disorders, and women are more likely to complain to doctors of such difficulties. Social factors may therefore be important in determining who is vulnerable.

Future intervention studies which make use of declared rates of anxiety and depression in the general population in Great Britain need to take account of the differences between males and females. This could be done by carrying out single sex studies or by balancing the numbers of men and women in the control and experimental groups. If men are studied assessments of violent behaviour, alcohol and substance abuse need to be included. Studies which helped men to deal

with these problems more appropriately would be of value.

4.1.2 Social class

Brown and Harris (1978) found that there was no overall interaction between class and life events for depressive disorder, but if women with young children were selected as being the most vulnerable group, an adverse event was four times more likely to result in depression for the working class than the middle class group. Other studies confirmed the finding that lower socioeconomic status was associated with greater likelihood of reports of depression (eg. Wright et al 1980, Hesbacher et al 1975, Nielson and Williams 1980). A more recent study conducted by Bebbington et al (1986) found working class subjects were more likely than middle class subjects to develop minor affective disorders when exposed to adverse events. Their general population survey in S.E. London found that the working classes experienced more adverse circumstances than those in the middle classes. Psychiatric disorder was strongly associated with life events in the working classes but the association was weak for the middle classes. Although these latter results need to be confirmed by subsequent studies, members of the working classes do appear to be more vulnerable than those in the middle classes and perhaps future preventative interventions should focus most resources upon working class populations.

4.1.3 Self-esteem and vulnerability

Although social support was mentioned earlier in the chapter on

stress and coping, a proposed link between social support and self appraisal was not explicitly mentioned. Ingham et al (1986) carried out a community survey of Scottish women and concluded that certain early experiences (such as separation from the mother figure before the age of 11 years) might adversely affect an individual's self esteem. Low self esteem may then make an individual vulnerable to anxiety and depression. An individual with poor self esteem is likely to find it hard to make and sustain close personal relationships which provide them with social support. Once an individual has suffered from anxiety or depression they may develop a more negative image of themselves which makes them more vulnerable to future episodes of psychological disorder.

Ingham et al's study was limited by the fact that it was not a prospective study so the effects of depression upon self esteem could not be easily distinguished. However around the same time Brown et al (1986) concluded from their prospective study of mainly working class women that measures of social support and self esteem were predictive of who was at risk of developing depression in the year following a stressful episode and the two factors were interrelated.

Brown et al. suggested that if a woman thought she had a supportive relationship but in the event of a crisis failed to get the support she expected, this might lead to a large decrease in self esteem. The drop in self esteem together with the effects of the crisis itself may result in a high risk of depression.

Brown's study did collect data on the actual supportive behaviour of

those close to the subject at the time of the crisis and so the study did not depend solely upon reports of the perceived available support and expressed feelings. One problem with this type of study is that the stressor and source of support may be confounded. For example, if the husband died and he was the main source of support, the bereavement stressor was inextricably linked with a loss of support. However Brown et al stated that it was rare for the stressor to be the actual loss of a close, confiding relationship and they thought this was not a major source of concern in relation to their study.

Social support and self appraisal appear to be interlinked, and there is some indication that self appraisal of problem solving abilities is related to actual ability to solve problems and make decisions (Heppner et al 1983). If possible therefore both social support and self appraisal should be assessed in future studies of problem solving behaviour.

4.1.4 Cognitions and attributions

Beck and his colleagues developed cognitive therapy as a treatment for depression as they theorised that maladaptive beliefs/appraisals and information processing strategies make a person vulnerable to depression and maintain depression (eg. Beck 1967, 1976, Kovaks and Beck 1978).

Brewin (1985) and Hollon et al (1987) reviewed the interrelationships of attributions and cognitions in depression, and concluded that it is likely that depression influences the intensity and

certainty with which depressive beliefs are held, and it is not yet possible to rule out the possibility that cognitions cause depression. They favour the model that cognitive processes are mediators which cause change in depression for some but not all therapies. But, any changes in depression, whatever the cause, result in changes in cognition. If this model is accepted individuals who have negative cognitions about the self, the world, and the future, will be more vulnerable to depression than those with less negative cognitions.

Studies which compared the cognitions of people who had recovered from an episode of depression with control subjects who had never been depressed produced some conflicting results. Some studies found significant differences in the cognitions between the two groups (Eaves and Rush 1984) whereas others did not (eg. Wilkinson and Blackburn 1981, Fennell and Campbell 1984). Teasdale (1983) found that cognitive processing tends to become negatively biased when individuals are in a low mood, and he suggested that the type or extent of cognitive processing determined whether the person remained mildly depressed or if the depression became more severe and persisting. Teasdale hypothesised that cognitions that involved global negative evaluations of the self would lead to negative interpretations of events and low mood and this would become a vicious cycle which would increase the depression.

Teasdale and Dent (1987) argued that recovered depressives should be assessed under circumstances where the cognitive processes that are likely to be active during depression are activated. Their hypothesis was that people who become depressed are more likely to

have higher neuroticism scores, to more actively process negative self related material, and to be less active in processing positive self related material than those who do not become depressed. Teasdale and Dent compared recovered depressed and never depressed subjects in normal mood and induced mood conditions. They found that the recovered depressed were more likely to have higher neuroticism scores; to use more globally negative words; to recall fewer self referred positive words; and to have higher measures of depression as an enduring characteristic than the never depressed. So there appear to be enduring characteristics in the way individuals process information, particularly information relevant to self esteem, which make some individuals more prone to depression. The differences found in this study between the recovered depressed and never depressed subjects were interpreted as being due to differences between these individuals which predated any experiences of depression. It is possible however, that these differences are a result of depression rather than due to stable differences which were present before the onset of depression. A prospective study which studied people before they became ill would help to clarify the situation.

It is outside the scope of the current work to do more than mention the possibility that there are many other factors (such as genetic and social learning factors) which make some individuals more prone than others to psychological morbidity.

Having pointed to some of the influences that might make some individuals more prone to psychological disorders than others so that these individuals can be given special help, are there any indications

of who might be more resilient, might do well in therapy, and who might benefit particularly from a more self help type of approach?

4.1.5 Hardiness

Kobasa (1979) asked what prevents some people who are exposed to high degrees of life events from experiencing high degrees of stress? Kobasa examined two groups of executives, one group who had become ill and another group who remained well after they had experienced high degrees of life stress over a three year period. She found that those who remained well a) had a stronger commitment to themselves and b) they had a strong sense of their own value, goals, and capabilities. They also had a sense of purpose. The hardier executives tended to act in a vigorous way towards their environment rather than passively accept changes. They used the changes and tried to make a success of them. These executives were also characterised by an internal locus of control and were more likely to believe they can affect the situation and make something of it. As they felt they had more control over their environment the hardier executives were less threatened by change. Individuals who were less hardy tended to respond to changes brought about by their superiors at work by being more acquiescent, and they saw themselves as having little ability to control events.

It is possible that the differences found between the executives who were in the high stress/high illness category completed the personality questionnaires in a different manner to those in the high stress/low illness category simply because they had indeed been ill,

and they may not have had an external LOC before they were ill. A prospective longitudinal study which assessed personality and stress would need to be conducted in order to determine if the elements which appear to make up a lack of hardiness were present before illness.

The theme of an active versus a passive response to the environment has continued to be found in studies of depression. Steinmetz et al (1983) arranged for patients with depression to attend a group psychoeducational approach and client characteristics associated with individual outcome were investigated. It was found that those who were more depressed at the start of the study tended to remain the more depressed, although patients at all levels of depression improved noticeably during the course of treatment. When levels of pretreatment depression were taken into account other predictors of outcome were: those who improved most had greater perceptions of mastery and a greater reading ability; they expected to be the least depressed at the end of treatment; they tended to be younger; were receiving fewer additional treatments for depression; and saw their families as more supportive. This however was not a controlled treatment study so it remains a possibility that what were classed here as effects of treatment were in fact the effects of spontaneous remission.

A later study by Teri and Lewinsohn (1986) did use two comparison groups. They compared group and individual treatments for depression using the same social learning approach as Steinmetz et al above. No differences were found between the two treatments in level of

depression during the study but two variables were predictive of outcome of treatment. These were the initial level of depression and the number of stressful life events. Additional factors that were associated with better outcome though not to a significant degree were: subjects who were more physically active, and who viewed themselves more in terms of "masculine" rather than "feminine" type adjectives; subjects who were more socially confident and emotionally reliant on others; and subjects who perceived more support from friends.

From these studies of depression initial level of depression was found to be an important factor in predicting outcome of treatment, the worse the depression the less good the outcome. The greater the depression the more inactive an individual tends to become. However in a study of patients with generalised anxiety who were taught anxiety management techniques, Butler and Anastasiades (1988) found those who were less demoralised and anxious at the start of the study, as well as being more depressed, were more likely to respond well to treatment. Demoralisation seemed to be more important than depression in predicting outcome. The authors suggested that people may become demoralised when they have found they cannot cope with their symptoms. They suggested that there is a similarity between this concept of demoralisation and Rosenbaum's (1980) concept of "learned resourcefulness" which Simons et al (1985) found was predictive of response to cognitive therapy for depression.

The way people are able to make use of therapy may be affected by whether the therapy used tends to confirm their preferred coping

style. People who are high in self control may do well with therapies, such as cognitive therapy and problem solving, that emphasise the individual's role in controlling their difficulties as these types of approaches confirm the individual's habitual mode of coping.

McPherson and Gray (1976) found people who construe the world in objective terms (such as describing others as "tall-short") are more likely to report mainly physical symptoms of anxiety, whereas psychological construers (people who interpret the world psychologically and in terms of emotions, such as "likes me-doesn't") more frequently interpret physical symptoms as emotional experiences and describe events surrounding the experience. The authors suggested this may have implications for choice of therapy. "Objective" contruers may be more likely to respond to drug therapy, and "psychological" construers to psychological therapies.

Alternatively, patients with somatic symptoms may benefit from reconstruing their backache and headaches as being evidence of emotional rather than of physical disorder. Heppner et al (1983) found that individuals who perceived themselves as effective problem solvers were more likely to participate in and enjoy cognitive activities such as problem solving. So in future studies before PS/DM skills are taught perhaps individuals should be given some pretraining experience which helps them develop more positive appraisals of their problem solving abilities, they are then more likely to take up and make use of the PS/DM training.

There do appear to be a number of factors which make individuals vulnerable to stress. These factors appear to be interlinked by means of the way the individual thinks about himself and the world. The

individual's view of himself is influenced by his upbringing and social conditioning. Interventions with a strong cognitive and practical skills training component which enable the individual to perform more effectively have potential for preventative interventions. Future work should perhaps use groups of subjects who start off with more similar levels of skills and experience so that an intervention could be more specifically tailored to their needs. Particularly vulnerable people are working class women who have low self esteem and few social supports and who experience life events which produce changes which have lasting consequences.

4.2 Suggested modifications to the PS/DM teaching package

As it was employed in Duckworth's (1983) study which used intelligent students as subjects the package has been shown to be satisfactory. It is however a lengthy package which takes some effort to become familiar with. One improvement would be to add a summary page so that once the approach has been learned the summary page could be used to remind the subject of the steps involved. Further improvements could include using the numbers 0-100 for rating the likelihood of different pros and cons occurring. Finer discrimination would thus be obtained for more complex problems. In addition, more emphasis could be placed upon encouraging subjects to think about how the minuses could be made more manageable. This adds point to spending time identifying the minuses and may help to make difficult situations more manageable.

For less able subjects the package is too complex and it would be

better to provide a) a summary page of the steps involved in PS/DM and b) a number of relevant worked examples for the subject to refer to. The teaching should be spread over more sessions with opportunities for followup sessions to help reinforce what has been learned. Rather than focusing upon each individual's problems in turn and anticipating that the other participants would be able to draw parallels with their own experience, it would be better for the less able subjects if only problems that were directly relevant to them all were dealt with in the groups. The major focus of attention would then be upon themes and experiences that the participants recognised as being common to them all.

A study in progress (Black 1989) which involves training mentally handicapped people in problem solving and decision making, as part of an anger management course, has found that mentally handicapped patients are unable to weigh up the pros and cons of any particular course of action, but in simple situations they can identify whether an action would make the situation "better" or "worse" for themselves or another person in the situation. An action that results in making things better for themselves and better for the other person in the situation is a "good" solution. This type of approach could be used with other less able subjects.

4.3 Further improvements to the study

This study tried casting a wide net to see if it were possible to teach a variety of people coping skills in groups containing a broad mix of people. As a result of running the groups it would appear that

some selection of subjects may prove more cost effective. The more able subjects can benefit from the package as it stands and if the package was aimed at such a group of people, who were motivated to make use of the sessions, this might be one very effective way of teaching preventative coping skills. The teaching could be done at an evening class where those attending the class would have selected themselves as being interested in learning coping skills.

For less able subjects PS/DM skills would be best taught in groups spanning a longer period with more followup sessions to confirm and put into practise what has been learned. A drop in facility could be used as Hierholzer and Liberman (1986) suggested to assist subjects experiencing difficulty once the groups were over. As stated above it would be best if problems common to all attenders were dealt with in the groups to make the groups appear more relevant to all members. To help to generalise what was learnt some of the teaching could be carried out in the patient's own home, school, or place of work. If a group format was used for most of the sessions perhaps an individual session could be conducted in the patient's home.

The study would be improved by including larger numbers of subjects and additional control groups so that the individual contributions of the PS/DM package and the non specific aspects of meeting as a group could be assessed. The control groups should include one group who only received the PS/DM package, one group who met as a group but received no specific training, and one waiting list control group who received no intervention. To increase the numbers of people attending groups additional measures, such as an orientation

film to familiarise patients with what to expect of the groups, the use of videos, and time for a chat and a drink, could be incorporated to increase compliance. When patients failed to attend groups the experimenter telephoned, visited, or left messages for patients encouraging them to attend the next session and offering them catching up sessions where possible. Taking a monetary deposit some of which is returned at the end of each session might be one way to increase compliance! Incorporating tea breaks and a time to chat during the sessions might also increase group cohesiveness.

Further improvements could include matching control and experimental groups for: type and chronicity of problems; behavioural skills level at the start of the groups; ability to think in abstract terms; and severity of distress. The assessments could include assessments of additional variables such as of Locus of Control; appraisal; self esteem; and social support. The GP's ratings of the patients were not satisfactory as the same GP was not always able to rate the same patient on the two occasions. This was due to factors such as the GP's changing jobs, locum arrangements, and sickness. The personality of the GP greatly affected the rating made of the patient. A further complication was that some patients had not attended the GP since the first screening appointment and so the GP was not able to give an up to date rating of the patient. One way to avoid some of these difficulties would be to use a close relative or friend of the patient who sees the patient regularly to rate the patient, and to incorporate some more objective physiological measures (such as heart rate and B/P) that were less susceptible to the "demand" characteristics of the situation.

In any design there are pros and cons. In order to reduce the risk of an experimenter biasing results it would be better to use more than one experimenter in a crossover design so that the risk of one experimenter biasing the results is reduced. To reduce the risk of contamination of the treatment given and reduce the differential effect of experimenter expectancies two experimenters could be used and each teach only one intervention. As far as possible they would both need to be equally convinced that the intervention they taught would be of benefit to the subjects. However if two experimenters were used the effects of each experimenter's personality and style could not be so easily controlled for.

The design of the study could be altered so that patients were not told before attending the first group which type of group they had been allocated to. This would reduce the element of self selection occurring when patients decided whether or not to attend each type of group. However there are ethical problems attached to this approach and it would not avoid the problem of differential dropping out occurring between the two groups.

It may be that had other forms of assessment been included in this study more marked differences between experimental and control conditions might have been found. It would be of interest to incorporate assessments of additional factors such as: self esteem and support; personal control or LOC; appraisal of situations and coping abilities; characteristics of life events; habitual methods of coping; personality factors such as neuroticism and demoralisation; and ability to think in abstract terms; if ways of doing this could be

found without overburdening subjects.

4.4 Future directions

The improvements to the package above suggest the directions that could be taken in the future. The package could be used broadly as it is, with the addition of the improvements noted above such as the summary page, and carried out in an evening class run by a local authority or by an university extra mural department. Attenders could select themselves for such groups and would be more likely to be willing and able to make use of the classes.

Another way of selecting subjects for such groups would be to ask GP's to select suitable subjects who are suffering from anxiety and/or depression, and the G.P. to ensure they only refer patients who are motivated to work on their problems and who are able to think in abstract terms. Screening instruments could perhaps be developed which would help the general practitioners assess which patients might be suitable. A further possibility is that the package could be used for children in schools at a time when it is likely to be meaningful to them. Such a time would be when the children were about to choose GCSE subjects or when they were making career choices. The brighter children might then go on and use the PS/DM approach in the future for themselves. The less bright children would at least have been helped to make more satisfactory career choices. The careful choice of career may have an indirect beneficial preventative effect for these children.

Groups for less able individuals could be organised to include people with similar problems. Common problems could be dealt with in the group so that the sessions appear relevant to all participants. For these less able participants only the summary sheets and worked examples would be given out as handouts. The experimenter has in fact already run such groups for patients about to leave a psychiatric rehabilitation ward to move into hostel accommodation, and for relatives of the patients about to leave hospital. The aims were to 1) help the patients to anticipate and sort out problems for themselves, 2) to help the relatives to identify potential problems so that they could avoid them once the patient was discharged, and 3) once the patient was back at home the family could all use the same approach to discuss problems in a less emotive way and make decisions together. Teaching the family the same approach would help to generalise the learning to the individual's everyday life and would provide the individuals with continuing support in their efforts to use the approach. It would also help to increase each member of the family's awareness of other members of the family's points of view. When conducting PS/DM groups and rating the likelihood of pros or cons occurring it is best if a) the group or family decides upon each rating by a consensus decision, or b) if each member completes the ratings separately, at the end when each individual has reached a decision a majority verdict is agreed. Differences in ratings can provide a very useful starting point for discussion. Often even though the ratings may differ in detail they may still result in the same overall decision being made by each individual participant.

To help generalise the learning in patient settings it is best to

teach other members of staff the same approach so that when one member of staff is not available the patient can ask the advice of other members of staff. For example in the rehabilitation setting a Charge Nurse and an Occupational Therapist have been found to be valuable people to involve. A dropin facility for patients and relatives held on a regular basis, say once a month, might be valuable. Other examples of groups of people with similar types of problems who might benefit from group PS/DM training are the carers of dementing people and the parents of children with behaviour problems.

More work needs to be done to determine which interventions or processes are most effective for which types of individual or problem so that effective use can be made of the resources available.

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Progress in Behaviour Modification, 9, 125-163

Appendix i

(Letters)

4th September 1984

Knightsridge Practice,
Carmondean Health Centre,
Carmondean,
Livingston,
West Lothian

Dear Doctor,

The attached list includes all the patients that I have seen who would like to attend my groups. I would be grateful if you would indicate:

- 1) if there are any patients whom you would wish to exclude from the study
- 2) if there are patients listed below who have had contact with the psychiatric or psychological services, or who are currently receiving antidepressant medication. I would like to exclude such patients from the study. I would, however, be able to include patients who are currently taking minor tranquillisers prescribed by their general practitioner.

I hope to send out the letters inviting the patients to attend the groups as soon as possible, and hope to commence the groups in two and a half weeks' time.

Yours sincerely,

Jane Kunkler

Dear

I would like to thank you for taking part in the survey that was conducted at your Health Centre.

I am now going to run several small groups as part of a special study which will involve learning about and discussing different ways of going about solving problems. I will also be teaching relaxation exercises which are useful in helping people cope more effectively with situations that they find difficult, particularly in situations where they feel anxious or tense.

The groups will take place once a week for five weeks, with one extra individual session towards the end of the five weeks. I would like to invite you to join the group meeting taking place on at

These groups are for anyone who wishes to cope more effectively with the difficulties that most of us encounter during the course of our lives.

Please complete the form below and return it to me in the envelope provided.

I hope to see you on

Yours sincerely,

Jane Kunkler

Name: Tel. no.

Address:

1) I will be able to attend the group on yes ☐
no ☐

2) I will be unable to attend the group at the time stated above. Would you please fit me into a group at another time. Please tick as many times as possible which would normally be convenient.

Time	Monday	Tuesday	Wednesday	Thursday	Friday
Morning 10 am					
Afternoon 2 pm					
Evening 7 pm					

Dear

I would like to thank you for taking part in the survey which was conducted at your Health Centre.

I am now going to run several groups as part of a special study which will involve looking at different ways of coping with emotions, in particular, feelings of anxiety or tension, and depression. I will also be teaching relaxation exercises to help people cope more effectively with situations that they usually find difficult.

I shall be running the groups once a week for five weeks at the Health Centre and would like you to join one of the groups. These groups should be helpful to anyone who wishes to cope more effectively with the difficulties that all of us encounter from time to time during our lives, and they should also be enjoyable.

Could you come to the first meeting on

If this time is not convenient for you, would you let me know and I will try to arrange an alternative time. Unless I hear from you, I look forward to seeing you for the first session at the Health Centre on

Yours sincerely,

A.J. Kunkler

Dear

I would like to thank you for taking part in the survey which was conducted at your Health Centre.

I am now going to run several groups as part of a special study which will involve looking at different ways of going about solving problems. I will also be teaching relaxation exercises which are useful in helping people cope more effectively with situations that they find difficult, particularly in situations where they feel anxious or tense.

The groups will take place once a week for five weeks at the Health Centre and I would like to invite you to join the group meeting taking place on . These groups are for anyone who wishes to cope more effectively with the difficulties each of us encounters during the course of our lives. If this time is not convenient, please let me know and I will try to arrange another more convenient time for you, otherwise I look forward to seeing you on .

Yours sincerely,

A.J. Kunkler

5th October, 1984

Dear

I will be starting a new set of groups next week. If you are interested in coming to a group please come to a group at one of the following times:

Whether or not you come to a group, would you please help me by completing the enclosed questionnaire and returning it to me in the envelope provided. The questionnaire is to help me decide how worthwhile the groups are, and if the project is cost effective.

I would be most grateful for your help, and I hope to see you next week.

Yours sincerely,

A.J. Kunkler

Dear

I was very sorry that you were unable to come to the relaxation classes that started recently at Unit 3, Ettrick Drive.

I would like to ask you for your help in finding out how useful and cost effective the groups are. If you would fill in the enclosed questionnaire now, and a second questionnaire in 5 weeks' time, I will be able to compare the results for those who come to the groups, with those who are not able to come to the groups. This will help me discover exactly how beneficial the groups are.

I would be grateful if you would return the questionnaire to me in the envelope provided. Or alternatively, you could return the questionnaire to the health centre for me to collect. It would be most helpful if you would return the questionnaire within the next 3-4 days.

Yours sincerely,

Jane Kunkler

Dear

It is now 6 months since you attended relaxation classes in the winter. I would now like to invite you to come to a meeting on at . I can then ask you how you are, and find out how useful the classes have been to you over the last few months.

If the time given above is inconvenient, do please come at one of the other times listed below (I will be at Unit 3, Ettrick Drive or in Craigshill Health Centre all day on Monday 29th July and Thursday 1st August if you cannot come at the times stated).

I very much look forward to seeing you.

With kind regards,

Jane Kunkler

	Monday 29.7.85	Tuesday 30.7.85	Wednesday 31.7.85	Thursday 1.8.85	Friday 2.8.85
Time: morning Unit 3 Ettrick Dr.	10 10 ↑ AT HEALTH CENTRE/UNIT 3, ETTRICK DRIVE ALL DAY	10-12		10 10 ↑ AT HEALTH CENTRE/UNIT 3, ETTRICK DRIVE ALL DAY	10
Time: afternoon Unit 3 Ettrick Dr.	2		2	2	2
Time: evening Unit 3 Ettrick Dr	7 ↓ 8		7 (there from 6pm)	7 ↓ 8	7 (there from 6pm)

Dear

I was very sorry not to see you at the 6 month follow-up group last week. As you know, I would very much like to know how you are now and hear if you have used any of the things we did in the classes over the last 6 months.

I would be very grateful indeed if you would be kind enough to fill in the enclosed questionnaires and return them to me. It would be best for me if the questionnaires could be returned within the next 2-3 days.

Most of the questionnaires are the same as before and the instructions are on the top of each questionnaire.

To remind you, for the stories you are asked to write short notes about how the person in the story can get from the situation they find themselves in at the beginning of the story, to the situation they find themselves in at the end of the story.

The "Ways of coping checklist" you will not have seen before. To complete it could you think of something that you have found stressful that has happened since Christmas and write down what it was at the top of the page (e.g. the day of moving house; locking yourself out one day; or a day when a member of your family was ill). Then, go through the list of ways of coping and circle the appropriate number beside each item, to say if you did/did not do each of those things in that particular stressful situation.

Could I ask you one further set of questions?

- a) How old were you when you left school?
- b) Do you have any qualifications and could you tell me what they are?

This is to help me find out more about what sorts of people and problems are most helped by the two types of groups.

I am sorry that there are so many questions but by now you should be very practised at answering most of them!

This is the last part of the study and I may not see you again, so I would like to take this opportunity to send you my best wishes for the future, and to thank you for the help you have given me.

With kind regards

Dear

Thank you very much indeed for the help you gave me six months ago. It was invaluable in helping me to assess how useful the relaxation classes were over a short period of time.

I know that it is asking a good deal of you, but it would help me greatly if you would fill in one final questionnaire. It is the same questionnaire that you filled in last time and will take you about five minutes to complete. It will then be possible to compare the results obtained from people who came to the classes, with those who were not able to come, to find out how beneficial the classes were over a period as long as 6 months.

I would be grateful if you would return the questionnaire to me in the envelope provided. It would be most helpful if the questionnaire were returned within the next 3-4 days.

With kind regards,

Jane Kunkler

Appendix ii

(Pilot study: questionnaire and assessments)

Pilot study: questionnaires and assessmentsScreening questionnaire

Name

Address:

Date

Date of birth

Occupation

G.P.

1) Marital status

previous name (if married less than 2 years)

2) Previous address (if moved less than 2 years)

3) What have you come about this time?

(How does it affect you? What are the symptoms? Anything else?)

4) Have you had any of these troubles in the last few weeks?

	Rep. Q.3	present	ask Dr.	Dr. knows
Backache				
Tiredness				
Anxiety, worry, tension				
Headache				
Depression				
Irritability				
Dizziness				
Anger				

If yes, are you going to ask the doctor about it today?

5) What do you think is causing the trouble?

6) Do you think all your symptoms are caused by this?

Foulds and Bedford DSSI/SADS

1. Recently I have worried about every little thing

False True If true, this has upset me:

A bit A lot Unbearably

2. Recently I have been so miserable that I have had difficulty with my sleep.

False True If true, this has upset me:

Unbearably A lot A bit

3. Recently I have been breathless or had a pounding of my heart.

False True If true, this has upset me:

A bit A lot Unbearably

4. Recently I have been so 'worked up' that I couldn't sit still.

False True If true, this has upset me:

Unbearably A lot A bit

5. Recently I have been depressed without knowing why.

False True If true, how depressed?

Fairly Very Extremely

6. Recently I have gone to bed not caring if I never woke up

False True If true, how serious was this?

Desperately Very Fairly

7. Recently, for no good reason, I have had feelings of panic.

False True If true, this has upset me:

A bit A lot Unbearably

8. Recently I have been so low in spirits that I have sat for ages doing absolutely nothing.

False True If true, this has upset me:

Unbearably A lot A bit

9. Recently I have had a pain or tense feeling in my neck or head

False True If true, this has upset me:

A bit A lot Unbearably

10. Recently the future has seemed hopeless

False True If true, how hopeless?

Completely Very A bit

11. Recently worrying has kept me awake at night.

False True If true, this has upset me:

A bit A lot Unbearably

12. Recently I have lost interest in just about everything.

False True If true, how much loss?

Complete A lot A bit

13. Recently I have been so anxious that I couldn't make up my mind about the simplest thing.

False True If true, how anxious?

Fairly Very Extremely

14. Recently I have been so depressed that I have thought of doing away with myself.

False True If true, how seriously?

Completely Very Not very

Appendix iii

(Main study: questionnaires and assessments)

Main study: Questionnaires and assessmentsMedical Research Council Survey (MRC)Confidential

Please answer the following questions by ticking the appropriate box.
(Your answers will be treated as confidential.)

1) When did you last visit your doctor? more than 4 weeks ago ☐
less than 4 weeks ago ☐

2) Has today's visit got anything to do with the last visit?
same thing ☐
something different ☐

3) Did the Doctor suggest you come back today?
yes ☐
no ☐

4) Is the problem that you have come about today -
a) a new problem: yes ☐
no ☐
b) a problem that comes and goes yes ☐
no ☐
c) a continuing problem that you have had
for more than a month? yes ☐
no ☐

5) What have you come about this time?

(5a Patient's rating 5b Experimenter's opinion)

6) In the last few weeks have you been troubled by feelings of:

a) anxiety, worry or tension yes ☐
no ☐

b) If your answer was 'yes', have these feelings
troubled you: a bit ☐
a lot ☐
unbearably ☐

1) Might you be interested in coming to a group?

Yes ☐

No ☐

2) If you may be interested in coming to a group, please tick the times when you would normally be able to come to a group. (The groups will be once a week for 5 weeks). Please give as many alternative times as possible.

Times	Monday	Tuesday	Wednesday	Thursday	Friday
Mornings 10-12					
Afternoons 2-4					
Evenings					

3) Whether or not you came to a group, would you mind if I (or my colleague) visited you at home to ask you what you thought about such groups?

Willing to be visited ☐

Not willing to be visited ☐

There may not be room for everyone who wishes to join a group. However, if you are interested and there is room, you will receive a letter from me inviting you to join a group. Do not worry further about it if you have not heard from me within the next few weeks.

Jane Kunkler
(Clinical Psychologist)

THE GENERAL HEALTH QUESTIONNAIRE

GHQ 28

David Goldberg

Please read this carefully.

We should like to know if you have had any medical complaints and how your health has been in general, over the past few weeks. Please answer ALL the questions on the following pages simply by underlining the answer which you think most nearly applies to you. Remember that we want to know about present and recent complaints, not those that you have had in the past.

It is important that you try to answer ALL the questions.

Thank you very much for your co-operation.

Have you recently

A1 - been feeling perfectly well and in good health	Better than usual	Same as usual	Worse than usual	Much worse than usual
A2 - been feeling in need of a good tonic?	Not at all	No more than usual	Rather more than usual	Much more than usual
A3 - been feeling run down and out of sorts?	Not at all	No more than usual	Rather more than usual	Much more than usual
A4 - felt that you are ill?	Not at all	No more than usual	Rather more than usual	Much more than usual
A5 - been getting any pains in your head?	Not at all	No more than usual	Rather more than usual	Much more than usual
A6 - been getting a feeling of tightness or pressure in your head?	Not at all	No more than usual	Rather more than usual	Much more than usual
A7 - been having hot or cold spells?	Not at all	No more than usual	Rather more than usual	Much more than usual

B1 - lost much sleep over worry?	Not at all	No more than usual	Rather more than usual	Much more than usual
B2 - had difficulty in staying asleep once you are off?	Not at all	No more than usual	Rather more than usual	Much more than usual
B3 - felt constantly under strain?	Not at all	No more than usual	Rather more than usual	Much more than usual
B4 - been getting edgy and bad-tempered?	Not at all	No more than usual	Rather more than usual	Much more than usual
B5 - been getting scared or panicky for no good reason?	Not at all	No more than usual	Rather more than usual	Much more than usual
B6 - found everything getting on top of you?	Not at all	No more than usual	Rather more than usual	Much more than usual
B7 - been feeling nervous and strung-up all the time?	Not at all	No more than usual	Rather more than usual	Much more than usual

Have you recently

C1 - been managing to keep yourself busy and occupied?	More so than usual	Same as usual	Rather less than usual	Much less than usual
C2 - been taking longer over the things you do?	Quicker than usual	Same as usual	Longer than usual	Much longer than usual
C3 - felt on the whole you were doing things well?	Better than usual	About the same	Less well than usual	Much less well
C4 - been satisfied with the way you've carried out your task?	More satisfied	About same as usual	Less satisfied than usual	Much less satisfied

C5 - felt that you are playing a useful part in things	More so than usual	Same as usual	Less useful than usual	Much less useful
--	--------------------	---------------	------------------------	------------------

C6 - felt capable of making decisions about things	More so than usual	Same as usual	Less so than usual	Much less capable
--	--------------------	---------------	--------------------	-------------------

C7 - been able to enjoy your normal day-to-day activities?	More so than usual	Same as usual	Less so than usual	Much less than usual
--	--------------------	---------------	--------------------	----------------------

D1 - been thinking of yourself as a worthless person?	Not at all	No more than usual	Rather more than usual	Much more than usual
---	------------	--------------------	------------------------	----------------------

D2 - felt that life is entirely hopeless?	Not at all	No more than usual	Rather more than usual	Much more than usual
---	------------	--------------------	------------------------	----------------------

D3 - felt that life isn't worth living?	Not at all	No more than usual	Rather more than usual	Much more than usual
---	------------	--------------------	------------------------	----------------------

D4 - thought of the possibility that you might make away with yourself	Definitely not	I don't think so	Has crossed my mind	Definitely has
--	----------------	------------------	---------------------	----------------

D5 - found at times you couldn't do anything because your nerves were too bad?	Not at all	No more than usual	Rather more than usual	Much more than usual
--	------------	--------------------	------------------------	----------------------

D6 - found yourself wishing you were dead and away from it all?	Not at all	No more than usual	Rather more than usual	Much more than usual
---	------------	--------------------	------------------------	----------------------

D7 - found that the idea of taking your own life kept coming into your mind?	Definitely not	I don't think so	Has crossed my mind	Definitely has
--	----------------	------------------	---------------------	----------------

A

B

C

D

Total

Means Ends Problem Solving vignettes

- 1) Miss C. had just moved in that day and didn't know anyone.
Miss C. wanted to have friends in the neighbourhood.
The story ends with Miss C. having very good friends and feeling at home in the neighbourhood.

You begin the story with Miss C. in her room immediately after arriving in the new neighbourhood.

2) Ann noticed that her friends seemed to be avoiding her. Ann wanted to have friends and be liked. The story ends when Ann's friends like her again.

You begin where she first notices her friends avoiding her.

3) Mary is having trouble getting on with her boss at work.
Mary is very unhappy about this. The story ends with Mary's
boss liking her.

You begin the story where Mary isn't getting on with her boss.

4) John's mother is worried about her son because he will not go to school. The story ends with John being happy to go to school.

You start the story where John is refusing to go to school.

SELF-EVALUATION QUESTIONNAIRE

Developed by C.D. Spielberger, R.L. Gorsuch and R. Lushene

STAI Form

NAME

DATE

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and circle the appropriate number to the right of the statement to indicate how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

- | | | | | |
|--|---|---|---|---|
| 1. I feel calm | 1 | 2 | 3 | 4 |
| 2. I feel secure | 1 | 2 | 3 | 4 |
| 3. I am tense | 1 | 2 | 3 | 4 |
| 4. I am regretful | 1 | 2 | 3 | 4 |
| 5. I feel at ease | 1 | 2 | 3 | 4 |
| 6. I feel upset | 1 | 2 | 3 | 4 |
| 7. I am presently worrying over possible misfortunes | 1 | 2 | 3 | 4 |
| 8. I feel rested | 1 | 2 | 3 | 4 |
| 9. I feel anxious | 1 | 2 | 3 | 4 |
| 10. I feel comfortable | 1 | 2 | 3 | 4 |
| 11. I feel self-confident | 1 | 2 | 3 | 4 |
| 12. I feel nervous | 1 | 2 | 3 | 4 |
| 13. I am jittery | 1 | 2 | 3 | 4 |
| 14. I feel "highly strung" | 1 | 2 | 3 | 4 |

15. I am relaxed	1	2	3	4
16. I feel content	1	2	3	4
17. I am worried	1	2	3	4
18. I feel over-excited and "rattled"	1	2	3	4
19. I feel joyful	1	2	3	4
20. I feel pleasant	1	2	3	4

THE BECK INVENTORY

In each of the following 21 questions please pick the statement that best describes your GENERAL feeling throughout the PAST WEEK.

When you have chosen, write the number of statement in the box at the margin.

- ☐ 1. 0 I do not feel sad
1 I feel sad
2 I am sad all the time and I can't snap out of it
3 I am so sad or unhappy that I can't stand it
- ☐ 2. 0 I am not particularly discouraged about the future
1 I feel discouraged about the future
2 I feel I have nothing to look forward to
3 I feel that the future is hopeless and that things cannot improve.
- ☐ 3. 0 I do not feel like a failure
1 I feel I have failed more than the average person
2 As I look back on my life, all I can see is a lot of failures
3 I feel I am a complete failure as a person
- ☐ 4. 0 I get as much satisfaction out of things as I used to
1 I don't enjoy things the way I used to
2 I don't get real satisfaction out of anything any more
3 I am dissatisfied or bored with everything
- ☐ 5. 0 I don't feel particularly guilty
1 I feel guilty a good part of the time
2 I feel quite guilty most of the time
3 I feel guilty all of the time
- ☐ 6. 0 I don't feel I am being punished
1 I feel I may be punished
2 I expect to be punished
3 I feel I am being punished
- ☐ 7. 0 I don't feel disappointed in myself
1 I am disappointed in myself
2 I am disgusted with myself
3 I hate myself

- ☐ 8. 0 I don't feel I am any worse than anybody else
1 I am critical of myself for my weaknesses or mistakes
2 I blame myself all the time for my faults
3 I blame myself for everything bad that happens
- ☐ 9. 0 I don't have any thoughts of killing myself
1 I have thoughts of killing myself, but I would not carry them out
2 I would like to kill myself
3 I would kill myself if I had the chance
- ☐ 10. 0 I don't cry any more than usual
1 I cry more now than I used to
2 I cry all the time now
3 I used to be able to cry, but now I can't cry even though I want to
- ☐ 11. 0 I am no more irritated now than I ever am
1 I get annoyed or irritated more easily than I used to
2 I feel irritated all the time now
3 I don't get irritated at all by the things that used to irritate me
- ☐ 12. 0 I have not lost interest in other people
1 I am less interested in other people than I used to be
2 I have lost most of my interest in other people
3 I have lost all of my interest in other people
- ☐ 13. 0 I make decisions about as well as I ever could
1 I put off making decisions more than I used to
2 I have greater difficulty in making decisions than before
3 I can't make decisions at all any more
- ☐ 14. 0 I don't feel I look any worse than I used to
1 I am worried that I am looking old or unattractive
2 I feel that there are permanent changes in my appearance
3 I believe that I look ugly
- ☐ 15. 0 I can work about as well as before
1 It takes an extra effort to get started at doing something
2 I have to push myself very hard to do anything
3 I can't do any work at all
- ☐ 16. 0 I can sleep as well as usual
1 I don't sleep as well as I used to
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep
3 I wake up several hours earlier than I used to and cannot get back to sleep

- ☐ 17 0 I don't get more tired than usual
1 I get tired more easily than I used to
2 I get tired from doing almost anything
3 I am too tired to do anything

- ☐ 18 0 My appetite is no worse than usual
1 My appetite is not as good as it used to be
2 My appetite is much worse now
3 I have no appetite at all any more

- ☐ 19 0 I haven't lost much weight, if any, lately
1 I have lost more than 5 pounds
2 I have lost more than 10 pounds
3 I have lost more than 15 pounds.

I am purposely trying to lose weight by eating less Yes ____
No ____

- ☐ 20 0 I am no more worried about my health than usual
1 I am worried about physical problems such as aches and pains;
or upset stomach; or constipation
2 I am very worried about physical problems and it's hard to
think of much else
3 I am so worried about my physical problems, that I cannot think
of anything else.

- ☐ 21 0 I have not noticed any recent change in my interest in sex
1 I am less interested in sex than I used to be
2 I am much less interested in sex now
3 I have lost interest in sex completely

Please put a mark on the line at the point that shows how you have been feeling recently - within the last few days.

I feel:

very depressed _____ cheerful

I am:

calm _____ extremely
anxious

I am:

very angry _____ not at all
angry

I expect that:

I will be _____ I will be able
unable to cope _____ to cope very
with the _____ well with the
difficulties in _____ difficulties
my life _____ in my life

I expect that being a member of the group will:

help me a _____ not help me
great deal _____ at all

Name:

Date:

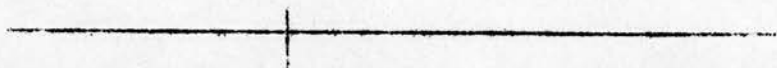
Case Number:

Please put a mark on the line at a point that reflects your view of the patient (as far as you are aware) within the last few days.

e.g.

Patient is:

extremely
anxious



calm

Patient is:

extremely
anxious



calm

cheerful



very depressed

angry



relaxed

able to cope
very well with
the difficulties
in his life



unable to cope
with the
difficulties in
his life

WAYS OF COPING CHECKLIST

Below is a list of ways people have of coping with a wide variety of stressful events. Please indicate by circling the appropriate number the strategies you are using in dealing with a specific stressful event.

(To help keep the situation in mind): I am talking about the situation in which

	Does not apply and/or not used	Used some- what	Used quite a bit	Used a great deal
1. Just concentrate on what I have to do next	0	1	2	3
2. I try to analyse the problem in order to understand it better	0	1	2	3
3. Turn to work or substitute activity to take my mind off things	0	1	2	3
4. I feel that time will make a difference - the only think to do is to wait.	0	1	2	3
5. Bargain or compromise to get something positive from the situation	0	1	2	3
6. I'm doing something which I don't think will work, but at least I'm doing something	0	1	2	3
7. Try to get the person responsible to change his or her mind	0	1	2	3
8. Talk to someone to find out more about the situation	0	1	2	3
9. Criticise or lecture myself	0	1	2	3

10. Try not to burn my bridges but leave things open somewhat	0	1	2	3
11. Hope a miracle will happen	0	1	2	3
12. Go along with fate; sometimes I just have bad luck	0	1	2	3
13. Go on as if nothing is happening	0	1	2	3
14. I try to keep my feelings to myself	0	1	2	3
15. Look for the silver lining, so to speak, try to look on the bright side of things	0	1	2	3
16. Sleep more than usual	0	1	2	3
17. I express anger to the person(s) who caused the problem	0	1	2	3
18. Accept sympathy and understanding from someone	0	1	2	3
19. I tell myself things that help me feel better	0	1	2	3
20. I am inspired to do something creative	0	1	2	3
21. Try to forget the whole thing	0	1	2	3
22. I'm getting professional help	0	1	2	3
23. I'm changing or growing as a person in a good way	0	1	2	3
24. I'm waiting to see what will happen before doing anything	0	1	2	3
25. Apologise or do something to make up	0	1	2	3
26. I'm making a plan of action and following it	0	1	2	3
27. I accept the next best thing to what I want	0	1	2	3
28. I let my feelings out somehow	0	1	2	3

29. Realise I brought the problem on myself	0	1	2	3
30. I'll come out of the experience better than when I went in	0	1	2	3
31. Talk to someone who can do something concrete about the problem	0	1	2	3
32. Get away from it for a while; try to rest or take a vacation	0	1	2	3
33. Try to make myself feel better by eating, drinking, smoking, using drugs or medication, etc.	0	1	2	3
34. Take a big chance or do something risky	0	1	2	3
35. I try not to act too hastily or follow my first hunch	0	1	2	3
36. Find new faith	0	1	2	3
37. Maintain my pride and keep a stiff upper lip	0	1	2	3
38. Rediscover what is important in life	0	1	2	3
39. Change something so things will turn out all right	0	1	2	3
40. Avoid being with people in general	0	1	2	3
41. Don't let it get to me; refuse to think too much about it	0	1	2	3
42. Ask a relative or friend I respect for advice	0	1	2	3
43. Keep others from knowing how bad things are	0	1	2	3
44. Make light of the situation; refuse to get too serious about it	0	1	2	3
45. Talk to someone about how I am feeling	0	1	2	3
46. Stand my ground and fight for what I want	0	1	2	3

47. Take it out on other people	0	1	2	3
48. Draw on my past experiences; I was in a similar situation before	0	1	2	3
49. I know what has to be done, so I am doubling my efforts to make things work	0	1	2	3
50. Refuse to believe it will happen	0	1	2	3
51. Make a promise to myself that things will be different next time	0	1	2	3
52. Come up with a couple of different solutions to the problem	0	1	2	3
53. Accept it, since nothing can be done	0	1	2	3
54. I try to keep my feelings from interfering with other things too much	0	1	2	3
55. Wish that I can change what is happening or how I feel	0	1	2	3
56. Change something about myself	0	1	2	3
57. I daydream or imagine a better time or place than the one I am in	0	1	2	3
58. Wish that the situation would go away or somehow be over with	0	1	2	3
59. Have fantasies or wishes about how things turn out	0	1	2	3
60. I pray	0	1	2	3
61. I prepare myself for the worst	0	1	2	3
62. I go over in my mind what I will say or do	0	1	2	3
63. I think about how a person I admire would handle this situation and use that as a model	0	1	2	3

- | | | | | |
|--|---|---|---|---|
| 64. I try to see things from the other person's point of view | 0 | 1 | 2 | 3 |
| 65. I remind myself how much worse things could be | 0 | 1 | 2 | 3 |
| 66. I jog or exercise | 0 | 1 | 2 | 3 |
| 67. I try something entirely different from any of the above (please describe) | 0 | 1 | 2 | 3 |

NAME:

Address:

- 1) Please keep a record of each visit that you make to see a doctor.
- 2) Also please tick one or both columns to show if your visit was about physical problems, and if your visit had anything to do with the way you were feeling (e.g. tense, anxious, depressed, etc.)

Date	Visit about physical problems	Visit had something to do with the way I am feeling at present

Name:

Case number:

Please record each visit the patient makes, and tick the appropriate column. Also, please record any referrals to hospital clinics, or admissions to hospital, and tick the appropriate column.

Date of visit	VISIT	
	purely medical	possible psychological component

Dear

As you know, I have been doing a research project at your health centre. The project involved discovering the reasons people have for visiting their G.P.s.

As a part of that project, I would like to ask you if I could ask your GP how you are, and if I could consult your medical records. The information obtained from your records will, of course, be treated as confidential.

Would you complete the slip below and return it to me, as soon as possible please.

Yours sincerely,

Jane Kunkler

Name:

Address:

Please tick () the appropriate box.

1) I have your permission to ask my GP about my state of health	yes <input type="checkbox"/>
	no <input type="checkbox"/>

2) I give you permission to look at my medical records	yes <input type="checkbox"/>
	no <input type="checkbox"/>

Signature:

Appendix iv

(Problem solving and decision making package)

SESSION ONE - Outline

Today's session will:

a) try to make it clear what the training programme is about and what it will involve for you.

b) introduce some basic ideas.

1) What is the training programme about?

The aim of the programme is to help you to develop more effective ways of identifying and handling situations that you find difficult. The programme teaches a series of steps that you can learn and then apply to any type of problem.

2) Who is the training programme for?

Everybody has to make decisions and deal with some difficult situations in their lives. The training programme is suitable for anyone who wants to learn how to deal with life's normal problems more effectively.

3) The training programme is divided into 5 sessions. During these sessions you will learn how to identify problems more clearly, and you will have a chance to practise thinking up a variety of solutions to these problems and choosing the best solution for you.

In between sessions you will have a chance to work on the problems on your own and then if you have any difficulties or queries you can ask for help at the next meeting.

4) By working on the programme as a group you will find that other people have the same sorts of difficulties as you, and that you can help each other in discovering new ways of handling problems.

5) Tutor's role in training programme

The tutor is there to teach you the basic steps of the programme, and to help you to practise these steps whilst help is available. At the end of the 5 sessions you should be able to use the programme to help yourself or your family, to find more satisfactory ways to cope with your problems both now and in the future.

The responsibility for learning and changing however is almost all yours. It is quite possible for a person to attend the training

programme and not to gain much benefit. If you want to change in any of the ways described in the programme, it will involve you in self-imposed hard work and practice.

6) The training programme is part of a research project

The training programme is being used as part of a research project where I would like to find out what effects the training programme has upon people. Because of this I will ask you to fill in questionnaires from time to time.

It is important that you come to all the 5 sessions, even if you do not find them very helpful. I would also like to see you 6 months after the programme has ended to find out how you are getting on.

7) THEORY

- a) If a person wants to cope better with difficulties, problems or unsatisfactory states of affairs in his life, then he needs to be clear what the problem is about. To do this you:
 - (i) Write down the state of affairs that exists (or may exist)
 - (ii) Write down the state of affairs that you would like.
- b) the states of affairs described can be specific situations (e.g. 'that person spoke sharply to me yesterday at work'), or can be more general (e.g. 'people are often unkind to me').
- c) The gap between what you would like the situation to be and what the real situation is, can be brought about by 2 kinds of change.
 - 1) you changing your mind about what you want.
 - 2) a change in your situation.
- d) Some gaps (between what you want and what the real situation is) are obvious, other gaps are not so obvious. In fact you can only know about them because you feel dissatisfied (or depressed, tense or irritable).
- e) To find out about the gaps that are not obvious, you have to think about what happened and what you were thinking about just before you noticed feeling tense, dissatisfied or depressed.
- f) When you are experiencing some of these unhappy feelings because of

there being a difference between what you would like, and what really is, you have 3 ways of responding:

- 1) to do nothing
- 2) to make the situation worse
- 3) to try and make the situation better.

The last choice is the only one if you want to have more control over your life.

- g) Sometimes when you have noticed a gap, it is obvious what you should do to improve the situation, however there are times when it is not obvious what you should do. This state of affairs we will call a problem situation.
- h) The rest of the training programme is about learning to look for these gaps so that you can then find the best action to take.

8) ASSIGNMENT

- a) read through what we have covered today.
- b) list up to 10 areas in your life where there is a gap between what you want and what the situation really is.

There are 2 ways of doing this. First, think about the various parts of your life (e.g. work, home, family, friends) and work on anything definitely not satisfactory to you.

Secondly, keep a lookout during the course of the week for incidents which remind you of things which are not satisfactory to you.

Leave a space of 3 or 4 inches between the descriptions, and then beneath each description try to write a brief (1 or 2 sentences) answer to each of the following questions.

- (i) What feelings/thoughts/observations lead you to notice the 'gap'?
- (ii) What did you feel like doing when you noticed the 'gap':?
Leaving it, or trying to do something about it?
If you left it: Why?
If you tried to do something, was what you did satisfactory?
- (iii) Does the gap represent a problem situation for you?

SESSION TWO

Purpose of today's session:-

- 1) To introduce some ideas about the kind of thinking that may be associated with some 'gaps' and the negative (unhappy) feelings that they produce.
- 2) To describe a scheme for getting at the thinking behind such 'gaps'.

THEORY

- 1) For many people a large number of 'gaps' have negative (unpleasant, undesirable) feelings associated with them. These feelings can make the 'gap' seem more unpleasant and difficult to resolve.
- 2) Feelings can be thought of as inner responses to the way a person is thinking at any particular time. So if a person wants to experience fewer negative feelings what he can do is to make it clear what his thoughts are, and then change some of the ways he thinks about things.
- 3) Two kinds of thinking are particularly important:
 - a) The way the person thinks about himself
 - b) The way he thinks about aspects of the world.
- 4) In the way the person thinks about himself it is as if he thinks:
 - a) "I must be a good, adequate, acceptable person, it would be awful to be anything else."
 - b) "To be such a person I must behave in particular ways and possess certain qualities (e.g. to be good at my job; to be liked by particular people; to be getting on in life)."
- 5) If a person matches up to these demands that he makes of himself, he will feel satisfied; if he fails he may well decide that he is inadequate in some ways as a person, he will tend to feel depressed and blame himself. If he expects to be in a similar position where he may fail again, he will tend to feel anxious and fear what is to come.
- 6) People differ in how strongly they believe in the relationship

between their behaviours and their goodness, adequacy and acceptability. This will partly account for differences between people in the intensity of the feelings they experience in particular types of situations.

- 7) If a person wants to avoid the experiences brought about by this kind of thinking, he can do it by choosing a more realistic way of thinking. For example, the person can decide not to think of himself as 'good' or 'bad'. Instead he can decide what qualities he prefers, and work towards them.

If he cannot reach his goals he can either change the way he is going about trying to reach his goals, or, he can decide that his time and energy would be better spent trying to achieve some other different goals.

- 8) In the way the person thinks about the world it is as if he thinks:

- a) various aspects of my world should be good, proper and acceptable.
- b) in order to be like this certain things should happen (e.g. people should be punctual; my car should start every morning; life should not create too many problems for me).

- 9) If these aspects of the person's world are as the person thinks they should be, he will be satisfied. But, if not, he will tend to become irritated, indignant, demanding that they change and become as they should be.

Since saying things should be different does not make things change, the person is often left without the change that he wants.

- 10) If the person wants to avoid the experiences brought about by this type of thinking, he can change his demands into preferences (i.e. instead of saying . . . "I want (demand) Diana to be friendly to me" the person can say to himself . . . "I would like it if Diana were friendly to me".)

It is helpful to remember:

- a) There is no law that dictates that the world should be anything other than it is at any point in time.

- b) Apart from lucky changes, the only thing that will cause the various parts of a person's world to be as he wants them to be, is his own positive actions to make things happen that way.

Information about 'Scheme of Questions'

- (i) The 'Scheme of Questions' is to help you to move from the 'gap' as you see it, to the kind of thinking and assumptions that lie behind it.

SCHEME OF QUESTIONS

1a) What is the state of affairs that you want?

b) What is the state of affairs that exists (or may exist)?

Before going on, imagine yourself in the situation where you find you cannot bring about the state of affairs that you want.

2a) What actual feelings or emotions would you experience?

b) Why would you feel this way?

3) What more general state of affairs does this suggest that you want/demand?

4) Why do you want/demand this state of affairs?

5) What more general state of affairs does your answer suggest that you want/demand?

Use this question to go deeper, to get at the more important things that you want to have in your life.

6) Repeat questions 4) and 5) until you can go no further.

7) What a) judgements about yourself are you making

(i.e. thinking that I am worthwhile/good for nothing, because of the qualities I have/have not, or, because of what I have done/have not done)

b) demands on your situation

can you locate, which you might justifiably challenge?

8) Describe any self-defeating behaviour that you can diagnose (i.e.

things I do that work against me getting what I want).

- 9) Having worked through these questions, are there ways in which you might change your future behaviour?

SOME SIMPLE CASES

A

1a) I want people to be more friendly with me.

1b) Only some people are friendly with me, and then not for much of the time.

2a) Anger; bitter disappointment

2b) Because people should be friendly with me

3 I demand that people should be friendly with me.

4 Because they should: it's only proper for humans to do this.

5 I demand that people do what is proper and good

7a -

7b I am demanding that people befriend me.

8 Because I am angry with them when they don't befriend me in the way I want, I think people tend to like me less than they might. Also, because I expect them to befriend me, I don't in fact do anything to encourage them to befriend me.

9 I will change the 'I demand' to 'I would like', and try to encourage some people to be friendly with me.

B

- 1a I want people to be more friendly with me. 1b People only stay friendly for a short time
- 2a Disappointment; depression.
- 2b Because I would feel that nobody liked me
- 3 I want people to like me
- 4 Because otherwise I will feel no good: I must be pretty awful if people do not like me!
- 5 I want to feel that I'm some good
- 7a I am thinking that I will be a good-for-nothing if I am not liked by other people.
- 7b - 8 I think that I may have been putting people off because I have been trying too hard.
- 9 I will recognise and learn to remember that I am in fact not changed in any way by people liking me/not liking me. I will think out a better approach for making friends.
-

C

- 1a I want to pass my exams with a good grade
- 1b I may only get a pass
- 2a Shame; humiliation
- 2b Because of what my various friends, relations, and associates will think of me
- 3 I want other people I know to think well of me
- 4 Because life would be a bit miserable, otherwise. I wouldn't feel very good in life. ETC.

ASSIGNMENT TWO

- 1) As soon as possible after the session, spend a few minutes looking through the session outline to check that you have grasped and can recall the main ideas. If you have any queries or questions, make a note of these also so that you can remember to raise them at the next sessions.
- 2) Choose a minimum of 2 'gaps' from those you listed last week (or, specify two or more other ones which are bothering you at present) which bring about some definite negative feelings in you, for example: anger, irritation, frustration, anxiety, fear, guilt, depression, and so on. Pick - if possible - cases where the feelings are not the same.

Work through the Scheme for each of the 'gaps'.

SESSION THREE

Today's session we will:

- a) Discuss the experience you had while trying the second assignment.
- b) Explore any difficulties that you have in understanding the procedure, and the reasoning behind it.

Most of today's session will consist of discussion. You may like to note down anything worth remembering.

Points to Remember

- 1) Although problem situations may be difficult to resolve, resolving those situations can be enjoyable.
- 2) A person can think that he should not have this kind of problem in his life, and therefore he may be unwilling to say that there is a problem and to do anything about it.

Points arising in session 3

- 1) Problem situations can stir up negative feelings, but they can also be enjoyably challenging. A person can enjoy the process of resolving a problem situation, and the results of resolving the problem situation.
- 2) A person can be thinking that if he is good and normal he should not really have this kind of thing in his life, and therefore he may be unwilling to look at the facts and do anything about them.
- 3) Discovering the thinking behind a discrepancy that is associated with negative feelings, and even to change it, does not automatically resolve the gap. It will only do this where the gap becomes less important to you once the negative feelings have been dealt with.

Sessions 4 and 5 are concerned with helping you resolve the gaps.

- 4) The Scheme of Questions can be used to help you discover the thinking that lies behind negative feelings associated with long standing difficult problem situations. It can also be used for very brief or short-term situations (e.g. feeling uncomfortable in the presence of another person).

- 5) The Scheme of Questions can be used in understanding situations in the past where a person was unable to account for some of his feelings and actions.
- 6) The Scheme of Questions can be helpful in coming to understand another person's difficulties, when he comes wanting help or support.

ASSIGNMENT THREE

The purpose of this assignment is to give you another chance to improve your skill at probing the kind of thinking that can lie behind gaps which are associated with negative feelings. You have had one attempt at this, and we have discussed the various questions and issues that arose with a view to making clearer both the procedure and the reasons for it.

Instructions

- 1) List three recent occasions (no matter how small and unimportant they seem) when you have felt negative feelings of some kind. Place each case on a separate sheet of paper.
- 2) For each occasion write down each gap (i.e. what you would like the situation to be, and what the situation actually was).

SESSION FOUR

Today we will:

- a) Discuss the experience that you had while trying the third assignment.
- b) Look at the steps a person can take when he is trying to overcome a problem situation (i.e. some difference between what he wants, what is/or may be, and where he has not yet been able to decide on a satisfactory way of resolving the difference.

Information about

A Guide for Resolving Problematic Situations

- 1) This Guide is a general approach that can be useful for the resolution of problem situations. It is not meant to be a routine which you always have to follow exactly, but is a flexible tool that you can adapt to fit your own particular needs.

Not all parts of it are useful for every kind of problem situation. I suggest you use it in full at first, to see where it can be useful to you, and then use the more useful parts in your everyday thinking.

In a particularly difficult problem situation, you will probably find it useful to come back to the Guide and go through it thoroughly.

- 2) The Guide will not always help you to produce a pleasant resolution of a problem situation. For some of these, it is a case of choosing the best out of a very bad lot! It should increase the general effectiveness of your attempts to resolve problem situations, as you are encouraged not to make snap decisions, and encouraged to consider a wider range of alternatives.
- 3) Before trying to resolve a problem situation it is best to check whether any negative feelings are associated with it, and if so, to discover the thinking and assumptions behind them. This is helpful because sometimes problem situations seem difficult and unpleasant because of the way the person thinks about them, and this leads to self-defeating behaviour.
- 4) There are 2 main types of problem situations:

- a) Those where the person wants to cope with or improve some unsatisfactory state of affairs that has come about (e.g. poor relationship with a friend, failure in an examination).
- b) problem situations where the person wants to cause some desired state of affairs (e.g. to get a job).

For both these types of problem situations you may want to

- i) cope with or improve the situation
- ii) change the importance of the problem situation.

Guide for Resolving Problematic Situations

- (A) For problem situations where a person wants to cope with and possibly improve some unsatisfactory state of affairs.
(Or, to prevent some unwanted state of affairs from happening in the future).

FIRST

a) State the 'gap':

- i) What is the state of affairs that exists?
- ii) What is the state of affairs that you want?

b) List on another sheet of paper, the various "little gaps" that have arisen because of the presence of the main 'gap'.

WAYS OF COPING WITH/RESOLVING PROBLEM SITUATIONS DIRECTLY

- 1) List all the things you can think of that will bring about the state of affairs that you want. It can be helpful in making this list if you try to think up as many ideas as you can, and try to be creative. Do not decide what is possible and what is not possible yet. Leave a space between each description ready for step (3).
- 2) Remove from your list any idea which are obviously impossible, that is, those which would take up too much time or money.
- 3) For each idea, list under 4 headings all the possible consequences (results) for you of that course of action (including consequences for you which stem from the effect of the situation on other people):
 - a) short-term positive consequences (pluses)
 - b) short-term negative consequences (minuses)
 - c) long-term positive consequences
 - d) long-term negative consequences
- 4) By the side of each of the consequences, note whether it is extremely likely, likely, or unlikely to occur.
- 5) Look at the various alternative ideas and decide which idea, or set of ideas, will have the best payoff. That is, will:
 - a) resolve the 'gap',

- b) increase the likelihood of other nice things happening, and
- c) reduce the likelihood of other undesirable things happening.

WAYS OF COPING WITH/RESOLVING PROBLEM SITUATIONS INDIRECTLY

- 6) For each of the "little gaps" (brought about by the main gap) list all the ideas you can think of that could achieve each state of affairs that you want.

Follow the instructions under 1) in the previous section.

- 7) For each of these lists of ideas, work quickly through the steps 2) - 4) described in the previous section.

- 8) For each "little gap", look at the alternative ideas before deciding upon a single idea, or, set of ideas which will have the best payoff.

COMBINING DIRECT AND INDIRECT WAYS OF COPING WITH/RESOLVING PROBLEMS

- 9) Review the problem situation and decide on a final set of ideas.
Even if direct action is possible, there may still be "little gaps" that show signs of continuing and which therefore need dealing with.
- 10) Decide on the detailed actions that will be necessary in order to effectively carry out this set of ideas. You should follow the same kind of procedures as those outlined in steps 1) - 5).
- 11) Act on the ideas you have chosen.
- 12) Now examine how effective your ideas and actions have been. For example, have they satisfactorily achieved what you intended?
- 13) If the problem situation is not satisfactorily dealt with, spend some time reviewing your ideas and actions using the additional information that you now have, and then repeat steps 11) and 12) with your revised ideas and plans.

(B) For problem situations where a person's main concern is to cause some desired state of affairs to arise in the future.

FIRST STEPS

- a) State the main 'gap'.
 - i) What is the state of affairs that you want?
 - ii) What is the state of affairs that will otherwise exist?
- b) List, on another sheet of paper, the various implied 'gaps'. That is, all the 'gaps' which are implied by the existence of the main 'gap'. You can obtain material for making this list by asking yourself why you want this state of affairs in the future: there will probably be a set of things that you in fact want, some specific and some more general.
- c) Use the Scheme of Questions (described in an earlier session) to check (and then maybe challenge) the thinking that lies behind what you mean to do in the future.

ASSIGNMENT FOUR

The purpose of this assignment is to give you the chance to work through from the point where you identify that there is a problem situation, to the point where you carry out the ideas that you have for dealing with the situation, and then see how effective you have been.

Instructions

- 1) List 2 gaps which are problem situations for you (i.e. some difference between what you want, and what is/may be, where you have not yet been able to decide on a satisfactory way of resolving the difference). Place each case on a separate sheet of paper.
- 2) If any negative feelings are associated with the problem situations, use the Scheme of Questions from the second session to get at the thinking and assumptions that lie behind them.
- 3) Use the Guide given in the fourth session to resolve the problem situations.

Guide for resolving problem situations (an example)

A a)(i) Children are always asking mum for things (e.g. drinks of orange juice) that they could get for themselves.

(ii) Want children to make fewer demands upon me.

b) (i) Get very tired with the children always demanding things.

(ii) Get irritable and take it out on my husband.

Ways of coping with/resolving problem situations directly

1) i) Ignore kids' demands.

(ii) Make the children get things for themselves

(iii) Get husband to do more with the children.

(iv) Get help with looking after the children (friends, relatives, playschool)

2) Don't need to remove any of these ideas.

Answer question 3 first, but leave space to put in answers to question 4.

3) & 4)

Short term positive
consequencesShort term negative
consequencesLong term positive
consequencesLong term negative
consequences

Idea

1 (i)

less exhausting than
doing everything for
them

unlikely

hard to ignore
demands will increase for
a time until they know I
mean it.extremely
unlikelystop demanding things
will know I mean 'not'extremely
unlikelymay lose some contact with
the kids

unlikely

(ii)

kids won't demand so
much of meextremely
unlikelyhave to reorganize things
so they can reach them

unlikely

Independent people
kids will get used to
looking after them-
selves and coping

unlikely

none

unlikely

(iii)

get to know father
better

unlikely

I may miss doing things
with the kids as the
father does more with
them

unlikely

children know father
even better

unlikely

jealous of the children
going to the father more
than to me.

unlikely

relieves me

unlikely

(iv)

relieves me

extremely
unlikelycosts money or have to
babysit in returnextremely
unlikelywill have better times
when together as a
family as not so tired

unlikely

lose contact with your own
children

unlikely

more time to myself
to get on with
housework unhinderedextremely
unlikelyhave to prepare and leave
food for babysitter

unlikely

children get used to
being with other people
children learn new
things from being with
other peopleextremely
unlikelymay pick up bad habits from
being with others

unlikely

5) Idea:

- (i) Ignore kids' demands: looks as if it will be hard to do it in the short term (extremely likely to have negative consequences), but it should be a very good choice in the long term.
- (ii) Making kids get things for themselves: has more positives than negatives in the short and the long term.
- (iii) Get the husband to do more with the children: looks a good idea.
- (iv) Get help with looking after the children: a good idea but costs money.

Decision: Will try ideas (i), (ii) (iii) first for 4 weeks and see how I manage, then can try (iv) if I wish.

SESSION FIVE - Outline

The purpose of today's meeting is to:

- a) Discuss the experience you had while trying the fourth assignment.
- b) Look at a few more things that can be kept in mind when trying to resolve problem situations.
- c) Review the ideas and experiences of the Training Programme.

Personal Notes and Queries

Points

- 1) Where the person is trying to deal directly with a problem situation he can: move out of the situation that is unsatisfactory into another where the 'gap' no longer exists.
For example, a teacher who has problems controlling his pupils, can move to a school where the children are generally better behaved.
- 2) A person can change his mind about the particular thing he wants, and decide that he wants something else that is similar in some basic respects. For example, a person who failed to get a particular job can look for another job with similar characteristics.
- 3) In making lists of "little gaps" that are a result of, or implied by, the main gap, it is helpful to ask oneself: "What are the specific reasons why I want the state of affairs that I have described?"

ASSIGNMENT FIVE

The purpose of this final assignment is to help you check that the ideas and experiences of the training Programme hang together and make sense to you.

Instructions

- 1) Using the summary sheet (which does not give too much detail), as soon as possible after the session think through the various topics that are listed to see whether you feel confident that you have grasped them properly. Wherever there is any doubt look back to the notes you have been given to clarify your ideas.
- 2) Sort through the various pieces of paper you have been given, and the notes you have made, and put the useful things in some logical order. It might be worth clipping them together.
- 3) Read through all the information that you now have.

SUMMARY OF THE CENTRAL IDEAS FROM THE TRAINING PROGRAMME

The Training Programme is basically concerned with helping a person to increase his ability to cope with and satisfactorily resolve problem situations that he encounters (i.e. situations where there is a gap between the state of affairs that he wants, and the state of affairs that exists/may exist, where he cannot easily decide on a satisfactory way of resolving the situation. It has involved you in examining, discussing and exploring the following topics (and many associated ideas).

- 1) The two ways in which gaps can arise, the ways in which the existence of gaps can be recognised, how to move - in unclear cases - to describing what the gap is, and the different ways in which it is possible to respond to a gap once it has been recognised.
- 2) The negative feelings that can be associated with and contribute to the unpleasantness and importance of gaps. The two kinds of thinking which can lead people to experience negative feelings, and how to get at and challenge such thinking with a view to changing it.
- 3) The two major forms of problem situation, and direct and indirect methods of resolving them.

Appendix v
(MEPS scores)

Appendix v

MEPS scores

Details of individual story scores for all four methods of scoring the MEPS are detailed below.

Patients who attended one or more groups

At the end of the groups the experimental group wrote down more means in the second MEPS story when the MEPS Manual method of scoring was used. This difference between the two groups almost reached significance (M-W, $U = 602.0$, $p = 0.0558$, N.S.).

The results obtained using method C of scoring means and effectiveness (see Method) showed that at the end of the groups the experimental group had significantly higher effectiveness scores than the control group on the second story (experimental group: median = 5, $n = 37$; control group: median = 5, $n = 34$; M-W, $U = 452.0$, $p < 0.05$).

However, at 6 month followup the effectiveness scores for story 4 showed that using method A scoring the control group had higher effectiveness scores than the experimental group (experimental group: median = 4, $n = 32$; control group; median = 6, $n = 29$; M-W, $U = 229.0$, $p < 0.001$).

It appears that the experimental group did improve their PS/DM skills and it showed particularly on problems they were less likely to have encountered directly in their own lives (i.e. friends avoiding Ann

story), whereas almost all the patients in the study had moved house to Livingston New Town and drew upon their own actual experience of how they got to know people locally in order to answer story 1.

Patients who attended three or more groups, or five groups

At the start and end of the groups

For those who attended 3 or more groups, there were no significant differences between the two groups at the start of the groups. By the end of the groups, all four methods of scoring the MEPS showed that the experimental group produced significantly more means in the second story (see table 36).

Table 36: Problem solving results at the end of the groups

	M-W		Experimental Group:		Control Group:	
	U	P	median	n	median	n
Method of scoring						
according to manual:	317.0	< 0.05	3	29	2	33
A	288.5	< 0.05	3	29	3	29
B	273.5	< 0.05	3	29	2	29
C	255.0	< 0.01	3	29	2	29

Both methods B and C showed that the experimental group had higher effectiveness scores on story 2 (method B scoring, experimental group:

median = 5, n = 29; control group: median = 4, n = 29; M-W, $U = 273.0$, $p < 0.05$; method C scoring, experimental group: median = 5, n = 29; control group: median = 5, n = 29; M-W, $U = 277.3$, $p < 0.05$).

The experimental group produced more elaboration of means on the third story (experimental group: median = 0, n = 28; control group: median = 0, n = 33; M-W, $U = 396.0$, $p < 0.05$) and the experimental group achieved higher effectiveness scores on story 3 using method C scoring (experimental group: median = 5, n = 29; control group: median = 5, n = 32; M-W, $U = 324.0$, $p < 0.05$).

When those who attended 5 groups were compared, the experimental group provided more means than the control group on the second MEPS story scored according to the manual when assessed at the end of the groups. This result almost reached significance (experimental group: median = 4, n = 14; control group: median = 2, n = 8; M-W, $U = 28.5$, $p = 0.0515$). However, when the other 3 methods of assessing the means and effectiveness scores of the MEPS stories were examined, significant results were obtained and the majority were in the same direction. At the end of the groups, using method B scoring, the experimental group had significantly higher effectiveness scores on the third story (experimental group: median = 5, n = 14; control group: median = 4, n = 8; M-W, $U = 28.0$, $p < 0.05$). Using method C of scoring the stories, the experimental group were again found to have significantly higher effectiveness scores on the third story (experimental group: median = 5, n = 14; control group: median = 5, n = 8; M-W, $U = 30.5$, $p < 0.05$). On the 4th story (method C scoring) the experimental group were found to have significantly higher effectiveness scores than the control group (experimental group: median = 5.5, n = 14; control group: median = 5, n =

8; M-W, $U = 25.5$, $p < 0.05$).

At followup

When those who attended three or more groups were compared at the time of the six month followup, it was found (using method A scoring) that the control group had higher effectiveness scores than the experimental group on the 4th story (experimental group: median = 4, $n = 27$; control group: median = 6, $n = 25$; M-W, $U = 161.0$, $p < 0.001$).

When those who attended 5 groups were compared, again the results at followup using method A scoring on story 4 showed that the control group had significantly higher effectiveness scores than the experimental group (experimental group: median = 4.5, $n = 14$; control group: median = 6, $n = 8$; M-W, $U = 26.0$, $p < 0.05$). Nevertheless, when means scores were compared, using methods B and C of scoring, the experimentals wrote down more means than the control group on the second story, method B (experimental group: median = 3, $n = 14$; control group: median = 1.5, $n = 8$; M-W, $U = 27.5$, $p < 0.05$); method C (experimental group: median = 3, $n = 14$; control group: median = 2, $n = 8$; M-W, $U = 28.0$, $p < 0.05$).

Method A scoring was done by an independent rater, whereas methods B and C were scored by the same rater (methods A and C were scored according to the same criteria). As effectiveness scores are a more subjective rating, this could explain the difference in the results obtained.

Summary

There were no significant differences between the groups at the start of the study, but by the end of the groups and at followup, the majority of results indicate that the experimental group were better at providing more methods of solving the problem in the story, and the methods listed were more effective.

Appendix vi

Appendix vi

A comparison of the two control groups from the two health centre populations, and a comparison of the two experimental groups from the two health centre populations. Can they be combined into one large control and one large experimental group?

As the numbers of patients attending the groups from each health centre population was small, it was necessary to determine if the patients in the two control groups from each health centre could be added together to make one large control group; and if the two experimental groups could be added together.

Control groups

GHQ and medical notes information

No significant differences were found for attenders (using Mann-Whitney tests and crosstabs) on the GHQ total scores (binary, or simple addition total scores) or any of the information collected from the medical notes when the two control groups were compared. As no information could be collected from the medical notes for non-attenders at Health Centre 1, comparisons between non-attenders, and non-attenders and attenders put together could not be made.

Screening results

No significant differences were found on any of the screening questionnaire questions when the two control groups were compared

(using M-W and chi square statistical analyses). This was true of those who attended the groups: those who did not attend; and all patients together.

Variables assessed at the start of the groups

When the results of patients who attended the groups were compared (using Mann-Whitney statistical analyses and t-tests), no significant differences were found between the two groups on self report measures (including measures of anxiety, depression and problem solving measures scored according to the manual) or the observer rated measures (such as the linear analogue scales completed by the doctors).

It therefore appeared possible to amalgamate the two control groups from the two health centre populations to make one large control group.

Experimental Groups

GHQ

When all subjects in the two experimental groups were compared at the start of the groups, no differences were found between the two populations looking at GHQ total scores (binary or simple addition total scores (M-W).

When those who attended one or more groups were compared at the start of the group a difference was found for the simple addition total GHQ scores, Health Centre 1 patients had significantly higher GHQ total scores (health centre 1: median = 39, n = 18; health centre 2: median =

28, $n = 23$; M-W, $U = 130.0$, $p < 0.05$).

For patients who did not attend groups, no differences were found between the two experimental groups on GHQ total scores (M-W) (either binary or addition scoring).

Variables assessed at the start of the groups

For patients who attended one or more groups, no significant differences were found between the two experimental groups on the Beck and Spielberger questionnaires (t-test, M-W) or the linear analogue scales (M-W), however patients from HC2 scored more means on the second MEPS story (scored according to the manual) and so were better at sorting out problems related to regaining friends (health centre 1: median = 1.5, $n = 18$; health centre 2: median = 3.5, $n = 22$; M-W, $U = 124.0$, $p < 0.05$).

Summary

Most differences that did emerge were between patients who attended groups where some self selection had taken place when patients decided whether or not to attend groups.

The most important comparisons made to determine if there were differences between the two experimental populations, which would prevent the two groups being combined, were based on comparisons of GHQ results obtained at the start of the study. As there were no

significant differences between the groups, it was thought acceptable to combine the two experimental groups into one big experimental group.

No significant differences were found between the control group populations on variables assessed at the start of the study; it was therefore considered acceptable to combine the results of the two control groups.

Appendix vii

A comparison of control and experimental group patients who attended 1 or more groups, controlling for intellectual level and initial level of distress

Intellectual level

When patients who had some sort of qualification were selected and compared it was found that by the end of the groups the experimental group scored significantly more means on the second story (scored according to the Manual) than the control group. (This result had not quite reached significance when all attenders were compared (experimental group: median = 4, n = 14; control group: median = 3, n = 13; M-W, $U = 49.0$, $p < 0.05$).

When the MEPS were rescored, the experimental group produced more means on story 3 at the start of the groups (scoring method A) and more means on story 2 at the end of the groups (scoring methods B and C). The experimental group also had a higher effectiveness score on story 3 at the start of the groups (scoring method A) (see table 37).

The control group were rated as producing significantly more effective answers on stories 2, 3 and 4 according to scoring method A but not according to scoring methods B and C (see table 37 for results).

The results appear to depend upon the rater. The results of the independent rater (method A) indicated that the control group scored higher on effectiveness scores at followup, whereas the results of the

experimenter who completed blind ratings according to the manual and methods B and C, indicated that the experimental group were better problem solvers at the end of the groups and there was little difference between the groups at followup.

Table 37: Rescored MEPS results

Time of assessment	Story number	Method of scoring	M-W:		Exptal. group:		Control group:	
			U	P	medn.	n	medn.	n

1 = start of groups

2 = end of groups

3 = followup

Means scores

1	3	A	29.0	< 0.05	3	13	2	11
2	2	B	40.0	< 0.05	3	14	2	11
2	2	C	33.0	< 0.05	3	14	2	11

Effectiveness scores

1	3	A	36.0	< 0.05	5	13	5	11
3	2	A	26.5	< 0.05	4	12	5	11
3	3	A	22.0	< 0.01	4	11	5	11
3	4	A	12.5	< 0.001	4	13	6	11

Patients with an initial total GHQ (binary) score of 5 or more

When the MEPS results were analysed according to the method detailed in the MEPS manual, the following results were obtained. Despite the control group being better at identifying obstacles to problem solving at the start of the groups (story 3, experimental group: median = 0, n = 33; control group: median = 0, n = 27; M-W, U = 328.0, $p < 0.05$), the experimental group were better than the control group at providing means for story 2 at the end of the groups which indicates that they had improved their PS/DM abilities (experimental group: median = 3, n = 30; control group: median = 2, n = 26; M-W, U = 261.0, $p < 0.05$).

Rescored MEPS results: The experimental group were found to score significantly more effectively at the end of the groups on story 2 (scoring methods B and C) and on story 3 (scoring method C). They also scored more means at the end of the groups on story 2 (scoring method B)(see table 38).

The control group scored significantly more effectively at followup on story 4 (scoring method A).

Table 38: Rescored MEPS results for those selected with an initial GHQ (binary) score of 5 or more

Time of assessment	Story number	Method of scoring	M-W:		Exptal. Group		Control Group	
			U	P	medn.	n	medn.	n

1 = start of groups

2 = end of groups

3 = followup

Means scores

2	2	B	194.0	< 0.05	3	29	2	20
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Effectiveness scores

2	2	B	191.0	< 0.05	5	29	4	20
2	2	C	190.0	< 0.05	5	29	5	20
2	3	C	210.5	< 0.05	5	29	5	22
3	4	A	132.0	< 0.01	4	26	6	19

Patients selected with an initial GHQ total (binary) score of 6 or less

According to the Manual method of scoring, there were no significant differences found between the two groups on the number of means, obstacles, or elaborations scored during the period of the study.

Rescored MEPS results: The control group were found to have higher means scores than the experimental group at followup when story 2

(scoring A and C), story 3 (scoring A), story 4 (scoring C) were compared. The control group were also found to have significantly higher effectiveness scores at followup when story 2 (scoring A), story 3 (scoring A), story 4 (scoring A and B) were compared. (For results see table 39)

At the time of the 6 month followup therefore, the control group scored more highly on the problem solving measures than the experimental group.

Table 39: Rescored MEPS results, a comparison of control and experimental group attenders selected for having an initial GHQ total (binary) score of 6 or less

Time of assessment	Story number	Method of scoring	M-W:		Exptal. Group		Control Group	
			U	P	medn.	n	medn.	n

1 = start of groups

2 = end of groups

3 = followup

Means scores

3	2	A	21.0	< 0.05	2	11	4	8
3	2	C	21.5	< 0.05	2	11	3	8
3	3	A	26.5	< 0.05	3	12	4	9
3	4	C	27.0	< 0.05	2.5	12	3	9

Effectiveness scores

3	2	A	15.0	< 0.05	4	11	5.5	8
3	3	A	22.0	< 0.05	4	12	5	9
3	4	A	12.0	< 0.01	4	12	6	9
3	4	B	26.0	< 0.05	4	12	5	9

Patients with a GHQ total (binary) score of 4 or less

When the MEPS were scored according to the manual, no differences on the number of means were found between the two groups, but the experimental group identified more obstacles in story 3 at the start of the groups, and more obstacles in story 3 at the end of the groups (start of the groups, experimental group: median = 0, n = 40; median = 0, n = 43; M-W, U = 24.5, p < 0.05)(end of the groups, experimental group: median = 0, n = 38; control group: median = 0, n = 42; M-W, U = 26.5, p < 0.05).

When the MEPS questionnaires were rescored, there were no significant differences between the control and experimental groups on the number of means scored, but on scoring method A, the control group's effectiveness score at 6 month followup on story 4 was significantly greater (experimental group: median = 4, n = 32; control group: median = 6, n = 29; M-W, U = 8.0, p < 0.05).

Summary

The results of the individual stories appear to confirm the overall

impression gleaned from the summed scores, which is that those who were more distressed at the start of the groups benefitted most from being in the experimental group, whereas those who were only mildly distressed did better in the control group, or it did not matter which group they were in.